

**CUSTOM CAR CONTEST** See page 36

# MOTOR TREND

JULY 1957 25c



**38 DELAGE  
CONVERTIBLE SPEEDSTER**



**TYPE 37-A  
SUPERCHARGED  
BUGATTI**

## **RIDING ON AIR IN '58**

What It'll Be Like

•  
**Beat the Heat!  
AIR CONDITIONING  
IS NOT A LUXURY**



# New Products

# MAIL MART

©1957

## SPECIAL of the MONTH

### STOP Hub Cap Thieves!

NEW "ELECTRIC-ENGRAVER" mark your hub caps clearly and permanently. This hand tool engraves steel, cast iron, aluminum, lead, copper, wood, plastics... even glass and stone! Easy as writing your name... weighs only 9 oz. Identify tools, auto parts, make name plates, engrave jewelry... a dandy for the home shop. A MUST for garages and service stations. For 110-115-volt 60-cycle AC. Only \$9.95. Item 1. PPD.



LOW AS  
\$2.45

### Standard NEUTRA-PLUG

For the motorist who wants to combat the two chief causes of engine wear at the lowest cost. Fights corrosive engine acids... captures microscopic ferrous grit. Surpassed only by Deluxe model at the right. Item 2. Standard model—\$2.45. PPD.



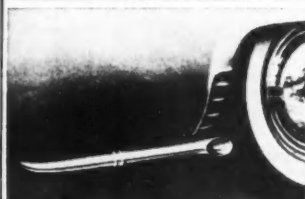
### Deluxe NEUTRA-PLUG

Neutra-Plug's active alloy element neutralizes corrosive engine acids that eat away at the very vitals of your engine. Powerful Alnico magnet captures tiny abrasive grit particles that cut and scratch precision machined surfaces.



### Deluxe NEUTRA-PLUG

Super-size element—over twice the acid-neutralizing surface. Strong (200-lb. test) cable—22 times the magnetic pick-up area. Item 3. Deluxe model—\$2.95. PPD.



### CHROME-PLATED OUTSIDE PIPES

Flashy triple chrome pipes add new-fashioned beauty touch. Eliminates tail pipe scraping and exhaust fume discoloration. Exhaust is carried outside of car into slipstream. This creates a vacuum that clears exhaust system faster and smooths out engine performance. Mounts to muffler—extends outside of car in front of rear wheel. Can be adapted to all cars—fits either side of any exhaust system. Easily installed. Pipes have 2 bends. 1 1/4" outside diameter (68" size also available with 2" diameter). State size. Item 5.

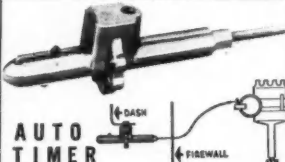
26 1/2" Long 15" between bends \$ 6.65  
34 1/4" Long 22" between bends 8.65  
40" Long 26 1/4" between bends 9.95  
68" Long 66" between bends 18.95  
Chrome clamps. State size. Ea. \$3.95



### MILEAGE MINDER

Saves up to 6 miles per gallon of gasoline. Triple-threat against gas waste.

Saves gas—reduces carburetor wear. Pressure regulator and pulsation dampener stops stalling, rough idle and vapor lock. Porous bronze filter removes water and dirt. Produces smooth flow of clean fuel. \$6.95. Item 12. PPD.



### AUTO TIMER

How's your GAS MILEAGE? Better spark timing for all driving conditions means up to 20% better mileage, greater power, more efficient operation. Easy-to-install dash-mounted chrome plated control advances or retards spark instantly to compensate for heat, load, speed, gas octane, etc. Indicator shows exact position. Accurate worm drive. Only \$6.95. Item 6. PPD.



### "RESERVE" FUEL TANK

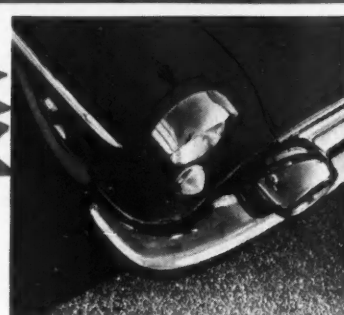
You'll NEVER run out of gas. Just lift hood, turn auxiliary valve—you've got enough fuel to get you to the next service station. With 3/4-gal. steel tank, porous-bronze filter, flexible gas line, valve, brackets. Only \$3.95. Item 9. PPD.



for as little as

\$195

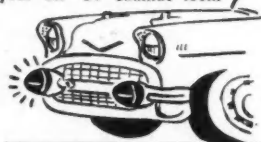
GORGEOUS  
HARBECK  
DESIGNS



Now you can customize your car in the very newest California fashion... at a fraction of the cost of hand striping. Save \$30.00... it's easy to apply genuine "CUSTOM-STRIPING" decals. Arrange any way you like. Original designs by famous Harbeck. Each set available in white, rich red... or lustrous gold. Specify set and color wanted. Item 4. PPD.

Set "A"—For headlights, dashboard, other beauty touches... \$1.95  
Set "B"—Like Set A plus 12 extra designs for the center of the hood, corners of rear deck, etc. (includes straight lines)... 2.95  
Set "C"—Complete Deluxe stripe kit for your car—36 designs... 3.95

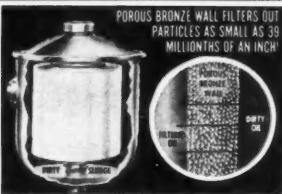
### Rubber "Bumper Bullets" give your car '57 Cadillac look!



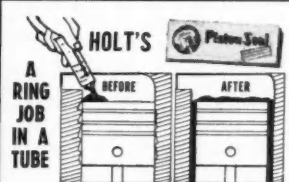
Here's that rich "Caddy" look—blends well with modern styling. Good-looking—and more! bumper "bullets" absorb shocks and protect chrome. Fit 1957 Chevrolet, 1957 Pontiac, etc. This bolt-on model also adaptable to many models Buick, T-Bird, also Dodge, Plym, DeSoto, Ford, Merc, others. Genuine black molded rubber. \$3.95 Pair. Item 7.



CUSTOMIZE WITHOUT A TORCH. TAP "glassing" kits make it easy to restyle and repair auto bodies. New plastic bonds fiberglass to metal—strong as a weld job. Kit includes enough material for headlights plus tailight "frenching"—other car and household repairs. \$3.95. Item 8. PPD.



PERMA-BRONZE Oil Filter—economical... yet FULL SIZE. Porous bronze element never needs replacing. Easy to clean. 10-year guarantee. With acid neutralizer. Fits your car's filter case. "By-pass" element \$4.95; "Full-flow" element \$8.95; Complete case with "By-pass" element \$10.95. Item 10. PPD.



MORE ZIP for the old bus! New life and power for that sluggish engine. Just unscrew spark plugs, squeeze Holt's into holes. Forms self-expanding seal. Boosts compression, cuts oil waste, ends piston slap. Lasts up to 10,000 miles. Only genuine "Holt's" insured by Lloyds of London. \$4.95. Item 11. PPD.



5805 E. Beverly Blvd., Dept. 745, Los Angeles 22, Calif. Phone Raymond 3-3671

Gentlemen: Please rush me the items circled at right: 1 2 3 4 5 6 7 8 9 10 11 12

My car is \_\_\_\_\_ Year \_\_\_\_\_ Model \_\_\_\_\_ No. Cyl. \_\_\_\_\_

Name \_\_\_\_\_ Full Price Enclosed \_\_\_\_\_

Address \_\_\_\_\_ \$ \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_ 20% Deposit. Send C.O.D.



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# MOTOR TREND

VOL. 9, NO. 7 • JULY 1957

## special ★ RIDING ON AIR IN '58 . . . . . 18

Air suspension makes debut on Eldorado Brougham

## ★ AIR CONDITIONING . . . . . 26

Beat the heat—it's cheaper than you think!

## ★ CUSTOM CAR CONTEST . . . . . 36

Simple bolt-ons may win you an air conditioner

## late news SPOTLIGHT ON DETROIT . . . . . 8

Complete story on Curtiss-Wright, Mercedes-Benz, Studebaker-Packard get-together, and first test of Studebaker economy car

## AS WE GO TO PRESS . . . . . 73

Last-minute reports from both sides of the Atlantic

## road tests '57 NASH ROAD TEST . . . . . 22

Comfort and safety are outstanding features of new model

## FUN IN A FIAT . . . . . 30

Testing a fascinating foreign car in a foreign setting

## MERCEDES 300-SL ROADSTER . . . . . 34

Our German correspondent tests one of the first off the line

## DRIVING AROUND . . . . . 48

Slamming around in the Porsche Spyder—a lightweight bomb

## JAGUAR 3.4 . . . . . 50

The addition of one extra liter shows startling effects

## new cars CADILLAC ELDORADO BROUGHAM . . . . . 68

Driving this ultra-luxury model is quite an experience

## custom cars CUSTOM OF THE MONTH . . . . . 35

This time the nod goes to a Modified Merc

## EL MOROCCO . . . . . 38

For those whose pocketbooks don't quite match their tastes

## CUSTOM COACHWORK FROM OVERSEAS . . . . . 40

Showing off the latest in European creations

## MT'S ALL-PURPOSE CAR . . . . . 42

The first report on our new and ambitious project

## classic cars COVER CARS: DELAGE AND BUGATTI . . . . . 24

A rare French one-of-a-kind classic and a converted Bug

## motor sports NEW SPEEDWAYS BRING MORE RACING THRILLS . . . . . 56

A testimonial to the growing popularity of motor sports

## technical OPERATION ECONOMY . . . . . 32

How the cars were prepared and driven in the Economy Run

## QUESTIONS FROM READERS . . . . . 62

A round-up of technical and classic queries

## departments MEMO FROM THE EDITOR . . . . . 4

LETTERS . . . . . 6 RUMOR MILL . . . . . 14

CAR OWNER'S LIBRARY . . . . . 12 MOTORING ACCESSORIES . . . . . 66

SELL 'N' SWAP ADS . . . . . 72

NEXT MONTH: Previewing the '58s!

500-HP Chrysler V8 Engine  
More Detroit Sports Cars?  
Fuel Injection Tests



# McCulloch Supercharger



## ➤ Tips

There have been times in recent months, due to the increased demand for McCulloch superchargers, when we've been really cramped for space at our Inglewood, Calif., headquarters. As a result, we've been scouring the Southern California area for a place where we could stretch out a little—and, of course, improve our operation all the way around.

For years now I've been impressed with the unusual quality and precision engineering of the British-made Lodge platinum-pointed sparkplug. Originally designed for use in Allied aircraft during World War II, the Lodge platinum plug is probably the most versatile in the world since it operates perfectly over a heat range twice that of any ordinary sparkplug.

What I'm leading up to is that McCulloch supercharger distributors and dealers are now stocking and installing this premium quality plug. Once you've tried the Lodge, I'm convinced you'll never go back to ordinary sparkplugs again.

If you want to boost your car's horsepower up to 40%, greatly increase acceleration between 0-60 mph, and add from 5 to 20 mph to your top speed, a McCulloch supercharger is just what the doctor ordered. For full details, including free illustrated folder, just write to me, John Thompson, Paxton Products, 929 Olympic Blvd., Santa Monica, Calif. Tell me the make and year of your car, carburetor type and power equipment, if any.



## from the editor

## Where Does All the Power Go?

After an engine is installed in a car and equipped with air cleaner, mufflers, fan, generator, and other accessories, it loses 16 per cent of its bare engine power at peak rpm. Next come the losses through the transmission, the rear axle, the tires, etc. But, let's go back to the beginning and start with a hypothetical car.

The 200 figure is corrected, bare engine, gross horsepower. This means it was obtained on a dynamometer with no air cleaner, no generator, no engine fan, spark and fuel adjusted to mean best power at each speed (every 200 rpm), no exhaust heat to manifold, and back pressure not less than atmospheric or more than one inch of mercury. Water pump and fuel pump were installed. Test conditions were corrected to 29.92 in. Hg barometric pressure, 0 in. Hg vapor pressure, and 60°F air temperature.

Our bare engine has 200 hp, but loses from 14 to 28 for mufflers, one to three for an air cleaner, eight because of combustion chamber deposits, one to five because of manifold heat, and one to six because of the automatic distributor. (The lower figures are at lower rpms; the higher ones are at peak rpm.) This leaves a minimum of 150 hp at peak rpm and 175 at low speeds. And the engine is not yet in the car!

Then, if we want air conditioning, it costs from one to 11 hp. Through the automatic transmission, another 10 hp are lost, leaving from 117.5 to 161.5 hp. (If a manual transmission were used instead, only 1.2 hp would be lost.) The rear axle absorbs from five to eight hp, leaving only 109.5 to 156.6 hp to propel the car under all conditions. And we started with 200.

Horsepower race? Possibly. Whatever it's called, it's sure to continue as long as there's the desire for more and more horsepower, hungry accessories and the need for quick-passing ability on today's crowded highways.

We've been among the many who have criticized the seeming "horsepower race." We're gratified to note, even with the terrific horsepower increases, that speeds and traffic deaths are not rising in the same proportion. A modicum of hp increase can be a benefit to highway safety, rather than be a detriment.

*K. A. Brown*

# End Filter Replacement FOREVER!



## TRY THIS TEST

This simple "bronze that breathes" smoke test demonstrates the amazing porosity of a Bronzoil Filter. Metallurgists call bronze "the timeless metal!" Thanks to war-time and post-war scientific development. Bronzoil engineers now use sintered bronze to prevent undue engine wear and eliminate frequent oil changes.

# BRONZOIL

## Permanent All-Metal Oil Filter

The first all-metal oil filters were originally developed for the U.S. Government for use in supersonic aircraft and guided missiles. These were the forerunners of the modern Bronzoil Filters that provide full lubrication protection for your automobile!

**ONLY FILTER  
THAT DESTROYS  
ENGINE ACIDS**

**ONLY FILTER  
THAT TRAPS  
DAMAGING  
MOISTURE**

**ONLY FILTER  
THAT SAFEGUARDS  
VALUABLE  
OIL ADDITIVES**

U. S. Patent  
NO. 2,716,499

**CHANGE OIL ONLY ONCE A YEAR!** Here at last is an oil filter that never needs replacing...increases your engine power...ends monthly oil changes...adds thousands of miles to engine life...stops waste of valuable oil additives...and saves you worthwhile money in the bargain!

## THE SECRET IS THE "BRONZE THAT BREATHES"

Millions of tiny bronze balls are fused or "sintered" together to form the astonishing, microscopically-fine filter screen that never wears out! Tests in huge gasoline and diesel trucks give conclusive proof that Bronzoil type filters are the finest, most economical oil filtering units ever made.

## "FILTERS THE DIRT—BUT NOT THE DETERGENT!"

Major oil companies have developed heavy duty oils containing expensive additives and detergents that greatly reduce engine wear. The Bronzoil Filter positively retains beneficial additives for the continued protection of your motor. Bronzoil exclusive double-cone design filters out abrasives and metal particles as microscopic as 39/millionths of an inch (one micron). Oil additives are left in to provide a protective film

between moving parts. New Bronzoil Filters, combined with modern heavy duty oils, double your engine's life!

Burned gasoline creates a strong sulphuric acid solution that eats into vital engine parts, causing them to wear out years before their time. Bronzoil is the only filter in the world with a built-in acid neutralizer which adds years to engine life and eliminates the main reason for frequent oil changing.

**SOLD UNDER MONEY-BACK GUARANTEE TO LAST FOREVER!**

## ONLY FILTER IN THE WORLD WITH BUILT-IN ACID NEUTRALIZER

Special Acid Neutralizer Element in  
Bronzoil Filter

Does your filter pass the "Acid" Test? Do you know your engine produces an average five gallons of corrosive sulphuric acid daily? If you have a Bronzoil Filter with the built-in Acid Neutralizer, your engine is getting the full protection it needs! The Bronzoil special element completely neutralizes this acid in 60 seconds!

**FREE! CAL-SI-LOY RADIATOR ROD** - \$3.95 value! Ride radiator and block of scale, rust and corrosion. Upon receipt of your order for a Bronzoil Filter, we'll send you a new Cal-si-loy Radiator Rod free!



**THIS MAY BE  
WORTH \$10,000  
OR MORE TO YOU!**

If you would like to be one of the people we are appointing as a Bronzoil Distributor or Dealer...write, wire or phone us today.

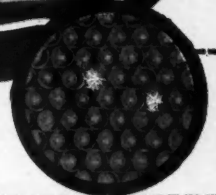
Exclusive territories with profit potentials of thousands of dollars are now being awarded.

Address: Sales Division,  
Carparts Corporation,  
1500 Franklin Ave.,  
El Segundo, California.

**USE COUPON NOW**

## MAGNIFIED PORTION

of Bronzoil filter showing microscopic metal balls fused together to make a solid, but porous filter. Bronzoil metal can't absorb additives, can't "channel," can't "blow," yet screens out finest particles of grit and metal which drop to bottom of filter housing as "sludge."



## FITS EVERY CAR AND TRUCK

A Bronzoil Unit that fits any standard filter housing costs only \$6.95. Easy to install, never needs changing.

You'll save the total cost of your Bronzoil Filter in a few weeks. You save in replacement pack costs and "the quart for the pot" you need every time you change filter packs. Most important, you save costly oil changes—with average driving, one oil change per year is sufficient.

## CARPARTS CORPORATION

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Carparts Corporation, Dept. **MT-77**  
1500 Franklin Ave., El Segundo, California  
Please ship the following at once

☐ Conversion unit \$6.95 (including all full-flow models)  
☐ Bronzoil Housing Unit (needed where car does not now have filter) \$9.95 (does not include element)

Enclosed is \$\_\_\_\_\_ full price. I understand factory will pay all shipping costs to my door.

NAME, MODEL & YEAR CAR \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ TOWN \_\_\_\_\_ STATE \_\_\_\_\_



On Sale Now!

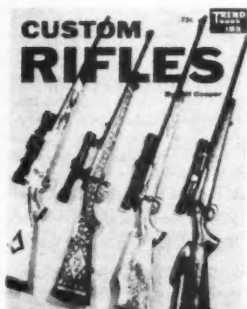
# "GOING INTO SPACE"



Here's a forecast of the future, with rockets and missiles roaring into outer space at fantastic speeds. With this historical background you can follow the accelerated pace of engineering developments in the World War II and later years that have advanced the deadline for first space flights. Including many just-released photographs of hitherto secret craft, this book is literally a basic fact-book from which to watch the race for the first true space flights, then the manned space ships. Thrill to the stories that are stranger than fiction recording man's progress into the last frontier—outer space.

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## LETTERS



### OPEN LETTERS TO THE MANUFACTURERS

Gentlemen:

The vast majority of us who pilot Chrysler New Yorkers take very strong issue with the matter contained in your report ('57 Chrysler Road Test, May MT). Surely, on any test wherein you convey an award *all* sides should be treated.

The buying public should be completely informed that the 1957 Chrysler has very little to offer other than radical appearance. I'm boiling with rage over the saddest example of automobile I've ever owned and you award an identical car an outstanding award. What goes on?

M. F. Tompkins Columbus, Ga.

Dear Sir:

Here are my suggestions for reduction of new car prices:

Standardize "accessory equipment"; overhaul the automobile dealer system; offer "standardized" models, and have the small manufacturers copy others' styling.

T. Tsang Chicago, Ill.

Gentlemen:

I think the new cars are nothing like the past models. There is not enough room in the passengers' compartment. With half the unnecessary trunk space added to the passenger compartment, one could stretch out in comfort.

George A. George Parma, Ohio

Gentlemen:

I am one of many Volkswagen owners in this vicinity and we find that we can't get service parts.

Our local dealer has had his franchise cancelled without notice and the distributor in Grand Rapids refuses to sell him the necessary repair parts, even at retail. I wonder if any other Volkswagen owners have had any difficulty in getting service.

John Meader Olivet, Mich.

### NATIONALISM, ANYONE?

Dear Sirs:

If anything burns me up it's the way people try to knock down U. S. autos. They wonder why a \$2500 Ford, Chevy or Plymouth doesn't have the performance, roadability, or isn't built to the standards of a Mercedes 300-SL or any other high-priced European car. That's almost as bad as comparing a French Renault with a Cadillac or Lincoln. If they would compare the U. S. low-priced three with a car more in their price class, like a French Simca Versailles V8, which has a list price of about \$2500, they would probably find the

U. S. cars way ahead in performance, handling and styling. I say that dollar for dollar you can't beat U. S. automobiles.  
John Roebuck Star Junction, Pa.

### LOOKING AHEAD

Gentlemen:

Here is my idea for the 1958 Cadillac.



The lines are basically "Cad," but with a fresh new look.

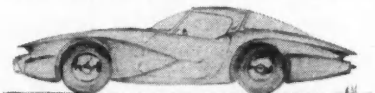
This car could more or less be a lower-priced model.

A/3c R. J. Gronowski

Robins A.F.B., Ga.

Dear Sir:

I made a sketch of a sports car based on the Corvette SS. The lines in this car are simple but functional; the power plant could be any one of the many manufactured, and



the body could be Fiberglas, aluminum or light-weight magnesium.

The dimensions are: wheel base, 96 inches; overall length, 194 inches; overall height, 48 inches.

Ernesto Lehfeld Mexico

### AFRICAN AUTOHOUND

Gentlemen:

Will you please ask some of your readers to write to me? I would like to correspond with persons taking part in motor car racing. I am 19 years old and attend the University of Witwatersand.

Racing has not yet attained a very high standard in South Africa, so I would like to correspond with persons in the U.S.A. W. Hendrix, 106 Sunnyside Heights, 62, Stiemens St., Johannesburg, Transvaal, South Africa

### SHOULD THEY BE SHIPPED TO MARS?

Gentlemen:

Man-made things have always been made in proportion to the size of the inhabitants of this planet. Car manufacturers today are definitely showing a complete disregard for this world-old practice as some of the '57 jobs are certainly not for "earth people."

Fourteen-inch wheels will show an increase in tire wear and a decrease in braking efficiency. Too much glass makes for extreme cold in winter and heat in summer... but

### MOTOR

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## \$1<sup>00</sup> Savings

on a two-year order. You won't miss a copy of the great new issues coming up if you send this coupon today...

why go further? It seems sad that this greatest industry in the world can get so "messed up." Frank B. Dixon Bridgeton, N.J.

DKW?? YES. OHV?? NO.

Dear Sir:

A careful check of my DKW has failed to uncover the ohv's mentioned in your April issue. Is this a factory or proofreader's oversight?

Louis G. Vargo

L.A., Calif.

*What can we say except that we goofed and wish to congratulate the many sharp-eyed readers who caught our ridiculous attempt to put ohv's on the DKW—Editor*

#### GROUNDN AIRMEN

Gentlemen:

The safe drivers' pledge which was required to be signed by the airmen applying for permission to purchase and operate a motor vehicle on March Air Force Base, has been scrapped.

Instead, we are requiring our airmen to execute the "Good Drivers' Code" as listed in your Memo from the Editor (May, '57 MT).

James W. Magers,  
Commander

March Air Force Base

#### UNITE AND WRITE!

Gentlemen:

Please do not continue to solicit complaints from your readers about their new car purchases. In the interest of every enthusiast and ordinary humble motorist, *urge them to write to the manufacturers.*

Let's start a "write to the factory" campaign. Until the various manufacturers are aware of our displeasure with their creations, we will continue to get sub-standard quality and poor workmanship.

Edward L. Merrill

Salem, Mass.

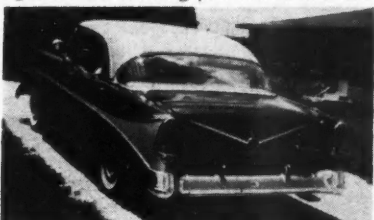
#### STUDECHEVIAC

Dear Sir:

A rear view of my altered '56 Chevy Bel Air Sport Sedan discloses:

Chrysler tail pipe extensions

Long V spears on trunk lid, which are right and left molding just rear of door and



midway up on body of '56 Pontiac 2-door hardtop.

Chrome circle on trunk lid which is from '55 Pontiac trunk lid.

Gold 8 in center of chrome circle which is from '51 or '52 Studebaker trunk, *not* hood.

Bob Walz

Indianapolis, Ind.

#### MONETARY MUMBLES

Gentlemen:

... Prices for new cars go steadily upward, prices for repairs and maintenance follow proportionately, and yet the vehicles as they are now delivered require almost immediate attention, which many dealers avoid giving if they can. Thus, poor J. Q. Public is blessed with an inflated price for a car of inflated size and finally inflated maintenance expense. The only thing that is not inflated is customer satisfaction.

It is my sincere hope that MT will continue to intensify its campaign to bring this matter to the attention of the manufacturers so that we may all be the beneficiaries of a sounder production policy.

Herbert W. Burdow

Freeport, N.Y.

## BUY YOUR VOLKSWAGEN ACCESSORIES

FROM AN AUTHORIZED VOLKSWAGEN DEALER and BE SURE

#### VOLKSWAGEN FUEL GAUGE 2201

Know your fuel level wherever you are. Estimate your miles per gallon as you drive. Stop guessing. Attractive matching instrument panel mounting of this accurate fuel gauge. Indirect lighting with red warning when gas level is low. All mechanical, simple to install, gives steady reading even on rough roads.

\$12.95

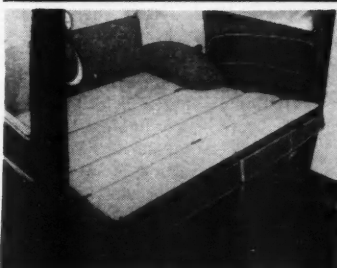


#### FOLDING GEARSHIFT

7713

This VW gearshift lever folds down when not in use and gives additional leg-room which makes it easy to get in or out from either side. Cannot fold accidentally.

\$8.95

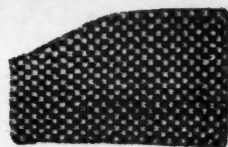


#### INSIDE LUGGAGE PLATFORM

8877

Get Station Wagon utility from your VW Sedan with this Rimi luggage rack. Attaches behind and to your rear seat so that seat can be folded forward and you can use more than 33 cu. ft. for heavy and bulky objects without danger of damaging upholstery.

\$18.75



#### VOLKSWAGEN FLOOR MATS

Insulate against cold, heat, and noise; fit exactly; are removable. Elegant. Covers entire floor front and back.

Sisal, natural & red 8801  
nat. & green 8803 black & red 8805  
silver grey & blue 8809 red & blue 8807

dark brown & yellow 8811 \$14.95

avail. for transporters \$39.75

natural & red for Karmann-Ghia 8813

\$24.95

in carpeting dk. brown & yellow 8819

grey & red 8821 grey & blue 8823 \$24.95



#### KEY CHAIN & BLANK

1053

A special Wolfsburg Coat-of-arms key and chain to match. Make attractive gifts.

\$1.95

Chain only 1055 \$1.50

#### GOLD KEY CHAIN BLANK

1001

Your own car key in gold with the VW monogram. Any locksmith can match it to your standard ignition key.

\$1.25

#### CUFF LINKS & TIE CLIP SET

1047

Conversation pieces in your cuffs and on your tie. The Coat-of-arms of Wolfsburg, the home of the Volkswagen factory.

\$4.95

#### LEATHER KEY CHAIN

1005

Keep all your keys on the VW monogrammed key chain.

\$1.75

#### TIE CLASP KEY

1003

Novel, smart Volkswagen tie clip.

\$1.50



#### SUN VISOR 8891—Right 8899—Left

Nicely upholstered or padded and covered with simulated gray leather. Also available for right side with neatly recessed vanity mirror.

8893

\$5.95

In the event your V.W. dealer does not have the items you need, simply order by number from us and we will fill your order either through your dealer or direct.

**WORLD-WIDE AUTOMOBILES CORP.**

Authorized Volkswagen distributor

dept. M 49-12 Newtown Road, Long Island City, N. Y.

# SPOTLIGHT ON

# DETROIT

## THREE-WAY GET-TOGETHER PRODUCES NEW ECONOMY CAR—FIRST OF MORE DEVELOPMENTS TO COME

by Joseph H. Wherry  
Detroit Editor



**A THREE-WAY MERGER? NO.** A recent national advertising campaign has linked the names of Daimler-Benz, Curtiss-Wright, and Studebaker-Packard in a manner believed by some to suggest that the three corporations have merged.

**DAIMLER-BENZ**, the famed Stuttgart, Germany firm has, until this unique agreement, marketed its automotive products in this country through its domestic subsidiary, Daimler-Benz of North America, Inc., with headquarters in New York. With a network of distributors and dealers, Mercedes-Benz cars have competed in the growing market for foreign-built cars. With few exceptions, M-B cars provided the top glitter in many sports and imported car salesrooms, but one thing has been clearly evident: while the sports cars (300-SL and 190-SL) have met with success, the excellent passenger cars have been only moderately well received. The fact is that there are few, if any, cars built anywhere on earth that are better cars than the M-B's. But, in order to get a family type car—and the vast majority of imported jobs are *family* types—in the Mercedes group, the buyer had to be well up on the economic ladder or else he would have to buy one of the smaller, somewhat anemic series like the 180.

**OF COURSE THERE WAS** always the outside chance that the marketing methods were not the best; hence the rumors, for the past year and more, that Daimler-

Benz was seeking to better their position in this country. There was widespread contention that the fine 190 and 220 series family cars as well as the ultra-fine 300 models could be profitably and efficiently marketed at lower prices. A recent dealer survey indicated, to the D-B management, that all was not quite hunky-dory on the dealer level.

**ENTER CURTISS-WRIGHT:** About a year ago this great corporation concluded a management-advisory agreement with Studebaker-Packard Corp. of South Bend, Ind. The Wood Bridge, New Jersey firm, long famed in the airframe and aviation equipment fields and one of the chief suppliers of fighter planes to Uncle Sam and Allies during World War II, placed large sums of money where it counted, virtually kept S-P in business. In return, S-P turned over certain manufacturing facilities in South Bend, engineering and proving ground facilities at Utica, Michigan, and electronic plants on the West Coast to C-W. The latter secured an option on a large block of stock, which would give them effective control of S-P were the option implemented, and undertook to advise the ailing, over 100-year-old vehicle firm on the best ways to succeed in the most competitive business in this most competitive nation.

**CURTISS-WRIGHT DOES NOT OWN S-P.** Contrary to the belief in some lay quarters, S-P is still a separate and distinct

organization. Disposing of some facilities has enabled the South Bend firm to cut costs and to integrate assembly lines in much the same way as have some of its larger competitors; the latter have merely done this over a period of many years and on a much larger scale. But C-W holds the trump cards and this is very evident when one begins to interview key persons in each organization. There is still about a year to go until C-W's option time comes up on the block of S-P stock. In our opinion C-W has already taken over as far as top level decisions are concerned. Daimler-Benz has a full line of motor

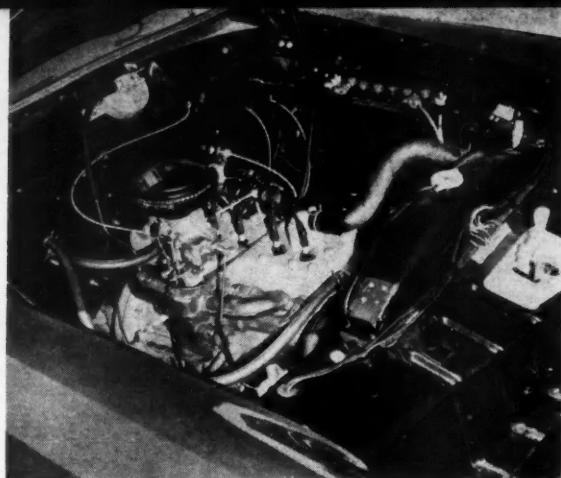


NEW STUDE interior is crisp, clean.





**NO FANCY TRIM** in the trunk. Bumpers are only chrome.



**ENGINE IS SIMILAR** to Champion with exception of carb.

vehicles, trucks, diesel and gasoline engines, and their line of automotive specialties includes such niceties as swing axles, probably the best fuel injection system available, and some of the world's best talent in engineering, body design and construction, etc.

**THE THREE GOT TOGETHER** and formed a new firm known as Curtiss-Wright & Mercedes-Benz, Inc. Under the laws of the state of Delaware this new enterprise will, henceforth, operate as a *holding* and *licensing* company. That the name of Studebaker-Packard Corp. has not been included is, perhaps, indicative of the actual management—it is quite obvious where the money comes from and it's equally plain that the plan has originated in the mind of top management of Curtiss-Wright, Mr. Roy T. Hurley, Chairman of the Board and President. This thing has been cooking for many months. Long ago top C-W officials in company with their counterparts from Daimler-Benz allowed themselves to be pictured with a 300-SL and other D-B cars at various gatherings, chiefly in Pennsylvania. But, since these occurrences took place after the financial

agreements which bolstered Studebaker-Packard and enabled it to stay in the market during this year and last, it was also quite evident that something comparatively radical was going to be done to give S-P a stronger bite on the national market.

**GUARDING THEIR WORDS CAREFULLY**, officials of C-W and S-P have made it plain that here is how the land lies for the foreseeable future:

1. The recently announced low priced, or *economy* car will be, in fact, a stripped-down special version of the Studebaker Champion (more on this later);

2. The full line of the Mercedes-Benz cars will be imported, may even later be assembled in the United States and will be marketed through "selected dealers" already holding the S-P franchise, and D-B special features will be available, under license, to S-P.

Queried by **MOTOR TREND** on a variety of subjects, various legal and management and engineering officials of Curtiss-Wright, Studebaker-Packard, and Daimler-Benz made the following points:

a) That the fuel injection and swing axles, for which D-B is justly famed, "could possibly appear" on S-P cars in the undertermined future. The same goes for "fine coachwork, transmissions, brakes, etc."

b) That S-P, under the new Curtiss-Wright & Mercedes-Benz, Inc., will have the sole sales and service and parts rights to Daimler-Benz cars, and that assembly of such cars (in the USA) and the utilization of certain features depends "on the future" and that the agreement will be in force for the next 15 years. This makes it quite clear that this is a long range plan, that C-W and D-B are the prime movers, and that S-P is the fortunate recipient because: C-W, while being in the position of a mortgage-holder, wants to make very certain that their monies (not stock investments yet) will be put to good and fruitful use.

c) That, as this is written, Studebaker-Packard franchised dealers are in a position to take bona-fide orders for Mercedes-Benz cars.

d) and that *only* S-P dealers will have this right.

**ASKED WHETHER FRANCHISES** are available to imported car dealers, **MOTOR TREND's** informants stated, frankly, that "there are many problems yet to be ironed out, and that right now everything is in a formative stage." But it would seem that there are many eminently qualified dealers of specialized cars that would be able and willing to cooperate with the new Curtiss-Wright & Mercedes-Benz holding company of which Studebaker-Packard is, in effect, the operating agent.

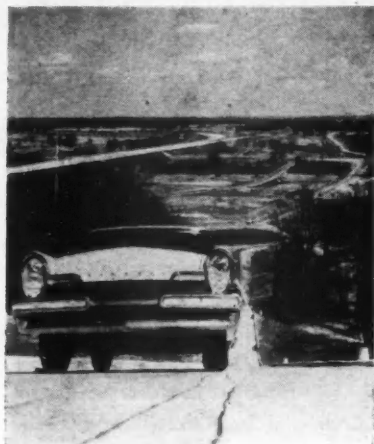
**A DAY OF PLAYING** "Twenty Questions" with top brass netted little in the way of price information: "No comment," was the exact quote we obtained from several different and widely separated individuals. But we think it's quite logical to assume that Roy Hurley, Harold

*continued on next page*

**MOTOR TREND/JULY 1957 9**



**STUDEBAKER "Scotsman"** line includes sedan, wagon, coupe.



**GRADES ON PAVED HILLS** at FoMoCo's new test facility run up to a 60-foot rise for each 100 feet of length.



New Ford proving ground at Romeo, Mich. covers 3880 acres. The hill climb area is in woods at the lower right.



continued from previous page

Churchill, and Carl Giese (C-W president, S-P president, and Daimler-Benz of North America president, respectively) will put their heads together with their pricing experts and come up with somewhat more favorable prices and policies than have been obtained in the past where D-B cars are concerned.

**IT'S AN EQUALLY LOGICAL** conclusion that the 2500 or so S-P dealers, when screened, will provide an energetic and lively marketing body quite in excess of that enjoyed by most European manufacturers in the domestic market. We may expect to see an aggressive program of service training begin soon, as well as sales promotion and advertising campaigns slanted to appeal to a broader cross-section of the local citizenry than was previously the case. The sales of cars like the attractive 220 series sedans should take a jump with the organized effort of a nationwide organization. In fact, if the position of S-P stock on the national market quotations is any guide, that which obtains at this moment is encouraging, to say the least—it's up a couple of points over what it was a few months ago.

**DURING A RECENT DAY** in South Bend we were shown pictures of those D-B cars which will be available through S-P dealers. They are the 220 series sedans and convertibles, the 300 series luxury cars, and the two sports entries, the familiar 300-SL and the 190-SL. There was a question as to whether

the 180 and 180-D (diesel) small sedans would be sold. When we asked whether the 219-S models (sedans with considerably peppier engines than the 220's) would be available, the answer was a guarded *yes*. Several new models, and all new ones at that, are expected to be introduced by autumn—these are Mercedes-Benz cars that will complement but not displace the current lines.

**AS TO S-P CHANGES FOR '58** we must content ourselves, at the moment, with the intelligence that the next Studebaker and Packard cars will *not* be all-new but that they will emphasize increasingly careful and top quality construction coupled with "styling that will be greatly changed and that will set style trends." Perhaps it's only natural that we would like that word, *trends*, but by the above statement we understand that styling of the '58 S-P cars will be more than merely refined, it will be new to a definite extent. There will also be, we are told, important chassis changes

which may (or may not) include some form of air suspension; there is a feeling rampant that the D-B swing axle could be incorporated on some models, but on this score we can only hope—there's no concrete evidence.

**ENGINES IN BOTH** Studebakers and Packards could benefit tremendously from some items in the D-B duffle bag—and particularly so where it comes to the "Champion" which could make good use of the more flexible powerplants used in some of the middle-line Mercedes cars. Then, of course, there is the highly developed fuel injection system that D-B has used for several years. When we queried as to its possible mating with powerplants in the S-P line we got raised eyebrows, knowing looks, and nothing more. All this could mean a new lease on life, in fact a resurgence, of importance for the in-line 6-cylinder engine. Only time will tell. The other engineering and styling aspect MT explored in connection with this unique industrial move was to ask whether



**IMPERIAL LEBARON SOUTHAMPTON** four-door hardtop is latest addition to line. Car has a solid-color broadcloth interior, with choice of many colors.

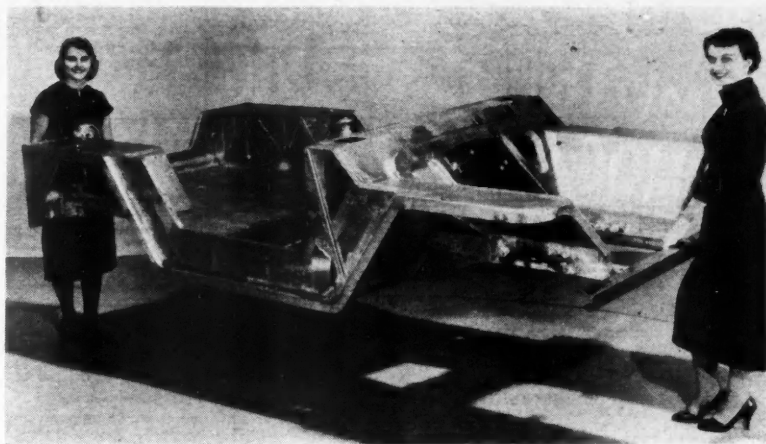
Mercedes-Benz cars might, in the attempt to have wider appeal, make use of any S-P features. That such a possibility exists cannot be denied; however, we were assured that, for the time being at least, there would be no attempt to recreate the German products in the image of any domestic cars. Nor does Daimler-Benz obtain any overseas sales and service rights to S-P cars. Doing very well in Latin America particularly, South Bend will continue to operate its export business without any changes.

#### SUMMED UP, IN ONE PARAGRAPH,

here's what the deal is: this three-firm deal is *not* a merger; Curtiss-Wright and Daimler-Benz have merely organized a joint holding company for the purpose of marketing D-B products in the Western Hemisphere and the outlets employed will be those of S-P; and, S-P has a 15-year option on the most important and sales-worthy features of D-B cars. The Utica Bend Division of Curtiss-Wright (formerly the S-P specialized truck plant for the most part) gains, under the same agreement, the importation and assembly right of Mercedes-Benz diesel engines and fuel injection systems (the engines range from 25- to 600-horsepower units). And finally, C-W and D-B may get together on an interchange of rights in the aircraft industry.

#### WHEN RADIO, TV, AND NEWSPAPERS

recently carried the news that Studebaker-Packard would manufacture and sell a car for under \$1800, they only told part of the news. In many quarters the announcement was taken to indicate that the new car was to be a '58 model and that its appearance would be at the normal introduction time. The "Scotsman" as it is called at this writing, will go on sale about the middle of June. Here's the way the car stacks up and exactly what it is.



UNITIZED, ALL-ALUMINUM body developed by Ford engineers is intended for use on experimental military vehicle, XM-151-E2. Body weighs 124 pounds.

**BASICALLY IT IS A CHAMPION** but with some basic differences. On the 116.5 inch-wheelbase chassis, the car has precisely the same exterior and interior body dimensions. There are three models: a two- and a four-door sedan, and a two-door station wagon. The engine uses the stock 185.6 cubic-inch Champion block, but with a slightly altered manifold (the hot spot is removed); a new "simplified carburetor" is employed—a single throat Carter with a manual choke controlled by a push-pull dashboard knob. This feature should meet with the approval of many. A dry-type air cleaner is used, but should the buyer prefer, an oil-bath is optional. With these few exceptions in the interest of initial and operating economy, the engine is identical with that of the regular Champion.

**THE NEW CAR** is completely devoid of the usual chrome or stainless steel strips. A buyer can choose between dark green, dark blue, and dark gray.

**INTERIORS REFLECT THOUGHT** in the interests of economy and durability. Though simply finished in beige and black and devoid of reflecting chrome decorations, the interiors are *not* the austere creations that distinguished the ill-fated Henry J and basic Willys models. The upholstery matches the beige and black of the dashboard and is of plastic in a two-tone cloth-like pattern. Interior hardware is chromed in the usual manner and includes the usual window lifts (all manual) and door handles. An ashtray is on the dash, the glove box is there in generous size, and light controls are toggle-type like on the regular Studebaker lines. The instruments, too, are standard Champion items. Interior space is identical to Champion and Commander series. The rear windows in the two-door sedan do *not* roll down; in the four-door model and in the station wagon the window arrangement is standard.

**OPTIONAL ITEMS ARE FEW** and include overdrive, the aforementioned oil-bath air cleaner, the rear-facing third seat in the wagon, an electric rather than the standard vacuum operated windshield wipers. A heater and defroster unit is *standard* equipment. Radio? Yes, there's the usual place for it, but that's extra as in most cars. Turn signals are standard.

**UNDERCARRIAGE COMPONENTS** are Champion with few changes. The rear suspension is by the usual semi-elliptic leaf springs with plastic interliners for quiet operation. The sedans have three leaves in the rear springs, the station wagon has four—one less than is the case with the standard Champion. Telescopic shock absorbers of conventional type are employed, and the front springs are coils but not of the variable rate variety. Weight saving is small, so potential buyers should not look on this

*continued on page 64*



**NEW DODGE** high-style truck has been named the Sweptside 100. Available engines are 204 bhp V8 or 120 bhp six. Payload capacity is 1675 pounds.



# Beat The SMOG!! Drive in COOL COMFORT

Air conditioning is no longer considered a luxury by the motoring public but today has become a necessity for enjoyable and healthful driving.

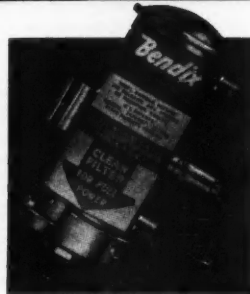
**IN CALIFORNIA**—see Babe Stapp for the finest selection of CLARDY under-dash and trunk **AUTOMOBILE AIR CONDITIONING UNITS**. Now available for all cars. All units can easily be transferred from one car to another.



Babe Stapp has years of experience in the automotive industry. In addition to nine years in auto air conditioning, installation and service, he is now one of the official timers for the famous annual Mobilgas Economy Run as well as being a former Indianapolis Race driver.

**Babe Stapp**  
AUTOMOBILE AIR CONDITIONING

1338 No. Ivar, Hollywood 28, Calif. MT Ph. HO 2-1391



## SPECIFY **Bendix** ELECTRIC FUEL PUMP or settle for second best

There's no getting around it. There is no substitute for the finest—and when it comes to automobile fuel pumps, the finest is the Bendix\* Electric Fuel Pump. Sports car fans across the nation (and throughout the world) are finding that out in ever-increasing numbers. The fact is that the man who wants average performance from his car doesn't really need a Bendix Electric Fuel

Pump. Without it, his car will get him to work in the morning and back home at night. But the fellow who wants a car to be something special—who never stops searching for perfection—is the one who gets excited about the kind of performance the Bendix Electric Fuel Pump delivers. See if you don't agree. (Send for illustrated folder.)

\*REG. U.S. PAT. OFF.

**ECLIPSE MACHINE DIVISION ELMIRA NEW YORK**



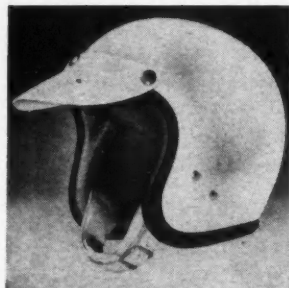
## BELL '500' HELMET

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car owner's



## LIBRARY

### HOW TO DRIVE

*Published by the American Automobile Association, 1712 G St., Washington 6, D.C. Price \$1.*

Whether you are a veteran driver or a driving school enrollee, you can profit from this book. The material has been boiled down to 122 pages of quickly grasped facts suitable for reading by busy adults.

Easy readability is combined with technical accuracy and topics are arranged so that, chapter by chapter, you build up a fund of knowledge and understanding of the car, the road, traffic management, and sound driving practices. You will also gain much information for and about yourself as a car buyer, owner and driver.

—R.C.S.

### AUTOMOBILE YEAR Annual Automobile Review No. 4

*Available in U.S. from Hanover House, Garden City, N.Y. Price \$9.95.*

This book, published in Switzerland, is a real bible of international automotive activity during the year.

A photographic round-up, with technical information on the world's cars, is presented. Color photos show the dream cars and experimental prototypes from both Europe and the United States. Included is a wealth of information on sports cars, race cars and classics.

For the racing enthusiast there is a condensed history of the 1956 world championship events on the Grand Prix and sports car circuits. Dyed-in-the-wool race fans will be able to trace the progress of each car in each race by means of the graphic lap charts.

Those whose interest in automobiles is either technical or economic will find valuable information within the 208 stiff-paperbacked pages of this book. We highly recommend it.

—R.C.S.

### THE MOTOR YEAR BOOK 1957

*Published by Temple Press Limited, Bowling Green Lane, London, E.C. 1 England. Price 17s.6d.*

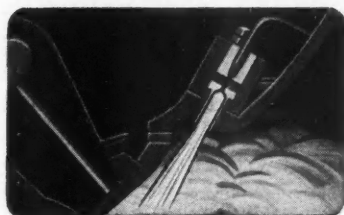
The latest edition of this book contains a customary review of the newest British cars and technical details. There are amplified statistical details related to racing and records.

This useful record of the year's motoring extends to more than 260 pages and is attractively illustrated with photographs, drawings and cartoons. It is well up to the high standard of its predecessors.

—R.C.S.

Chevy lifts the curtain on tomorrow with—

# FUEL INJECTION!



Ramjet fuel injection, optional at extra cost on any Chevrolet model, offers constant-flow port injection.

And that's the beginning of a whole new era of efficiency! For Chevrolet fuel injection puts on the road—today—the precision gas-metering, the instantaneous acceleration that used to be reserved for super-priced custom sports cars. You'll want to take a good long look at this brilliant piece of engineering. But, better still, you'll want to get behind the wheel of a Chevrolet V8 with Ramjet fuel injection—believe us, that's an *experience!* . . . Chevrolet Division of General Motors, Detroit 2, Mich.



## Stunning, Spirited Sunbeam



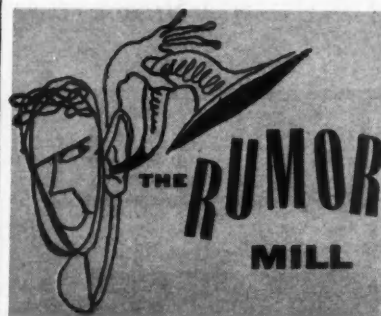
### This Stylish High-Stepper Takes Off like A Shot

This is it: the car for the sports enthusiast who requires practical transportation, too. Comfort, roominess, convenience, moderate price and economical operation make this British-built 1957 Sunbeam a perfect family car.

But to sports car lovers, this sleek hard-top also offers brisk acceleration from 0-60 mph; perfect spacing of six gear ratios; hair-trigger controls that respond to every instant command; an incredibly durable ohv dual-carburetor power plant with 8 to 1 compression ratio; sturdier, safer unitary chassis. If you drive for fun, drive a Sunbeam, at your Hillman/Sunbeam Dealer's.

all new **SUNBEAM**

Rootes Motors, Inc., 505 Park Avenue, New York 22, N. Y., 9830 W. Pico, Los Angeles 35, Calif.



**"A gas turbine powered car is going into immediate production in Britain."**  
**FALSE**—Undoubtedly inspired because of the known success of the latest Rover experiments in fairly conventional appearing cars, and because *Standard's* new gas turbine engine is entering production for industrial uses, there is little likelihood of a production passenger car in the near future. We do have it on good authority, however, that when and if such a newsworthy assembly line does start rolling, it will probably be the one which turns out the Jeep-like Land Rover, but don't hold your breath on this score either—the heat-metal problems are still tremendous. A turbine Land Rover could be, though.

**"More low and sleek and plush pickups will pop in '58 models."**

**TRUE**—For the Ford *Ranchero* is creating the sort of public impression that has several other pickup manufacturers searching for ways to get in on the good thing, and it'll take more than *tail fins* to make pickups look less like small trucks—which they actually are (see "Spotlight").

**"Studebaker-Packard Corporation's announced marketing of Mercedes-Benz cars will kick off with some new and interesting models."**

**TRUE**—And early autumn, at latest, should see two and very likely three all-new Daimler-Benz products designed with the domestic buyer foremost in mind (see "Spotlight").

**"Chevy will have an all-new engine for '58."**

**TRUE**—They've gone just about the limit on displacement increase so a new engine is a good bet. You can expect this one to make even wider use of aluminum than previously. This should be quite a mill, the way we hear it.

**"American Motors will return to a 100-inch wheelbase in one of its Rambler series."**

**FALSE**—And despite a parallel rumor that AMC regrets the abandonment of the 100-incher, public acceptance proven by rising sales of the 108-inch line will keep the Rambler in its present compact dimensions.

**"Some dealers are unhappy with the current Chevrolet fuel injection system."**

**TRUE and FALSE** in equal portions—The

continued on page 16



# Official Winners

## Mobilgas Economy Run

CLASS	CLASS WINNER	MILES PER GALLON	DRIVER
LOW	Plymouth Belvedere 8 . . . . .	21.3	Mary Davis
LOW MEDIUM	Dodge Coronet "500" . . . . .	22.0	Wm. J. Losher
UPPER MEDIUM	Chrysler Saratoga . . . . .	20.7	George Alsbury
HIGH	*Imperial Crown . . . . .	20.9	Mel Alsbury, Jr.

*(Based on highest ton-miles per gallon. Ton-miles is the mileage performance in relation to weight of car.)*

\*SWEEPSTAKES WINNER . . . . . Imperial Crown

OFFICIAL MILEAGE—AVERAGE FOR ALL CARS . . . . . 20.4

### TOP PERFORMANCE—TOP MILEAGE.

Cars representing over 90% of U.S. 1957 model production got a thorough testing in the tough Mobilgas Economy Run just completed.

These high-horsepower stock cars, all with automatic transmission, used 1957 Mobilgas Special—the same gasoline you buy at your Mobil station. Despite increased horsepower and size of car, official average mileage was outstanding.

Over 1568 rugged miles of mountain passes, long stretches of open road, tight town traffic, in all kinds of weather, with altitudes ranging from sea level to 7382 feet, every car reported dependable, knock-free performance and mileage.

**TOUGH, IMPARTIAL TEST.** Rules for the Run are rigidly made, rigorously enforced. Impartial observers, provided by the Sports Commission of the United States Auto Club, sat constantly alongside Run drivers.

Their job: to be sure cars were held to maximum legal speeds, never coasted, and all traffic laws scrupulously observed.

### CHECK THE MILEAGE OF YOUR CAR.

Column at right shows the best mileage each make gives when 1957 cars, 1957 Mobilgas Special, and competent drivers are challenged to "put out" their best. You'll get top mileage and performance, too, with 1957 Mobilgas Special.

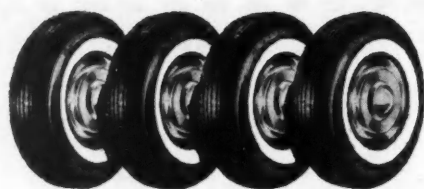
### BEST MILEAGE BY MAKE:

Buick Roadmaster . . . . .	mpg 18.6
Chevrolet Bel Air Sport Sedan 6 . . . . .	21.4
Chevrolet Bel Air Sport Sedan 8 . . . . .	21.2
Chrysler Saratoga . . . . .	20.7
De Soto Firedome . . . . .	20.9
Dodge Coronet "500" . . . . .	22.0
Ford Fairlane "500" 6 . . . . .	22.2
Ford Fairlane "500" 8 . . . . .	19.1
Imperial Crown . . . . .	20.9
Oldsmobile "88" Holiday . . . . .	19.5
Oldsmobile "98" Holiday . . . . .	19.2
Plymouth Belvedere 8 . . . . .	21.3
Pontiac Chieftain . . . . .	20.4
Rambler Rebel 8 . . . . .	21.6
Studebaker President . . . . .	19.9

### HERE'S THE RUN THEY FOLLOWED:



The Mobilgas Economy Run is an impartial test of cars competing against others in the same price class. Sponsored annually by Socony Mobil's western affiliate, General Petroleum Corporation.



# Now...you're "set" for SAFER travel ...thanks to ATOMIC ENERGY

**A MATCHED SET** of Dunlop AccuRated tires is your greatest protection against premature tire failure. The precise, atomic-powered action of AccuRay® produces a stronger, safer tire with an exact amount of protective rubber uniformly applied to every cord ply. No dangerous ply chafing or internal heat build-up. Better balance, new stability and comfort for mile after mile of safer driving.

Your Dunlop dealer will give you the "inside story" that makes Dunlop your best tire value today. He has a complete selection of Dunlop tires in Nylon or Super Hi-Test Rayon.



**Dunlop's AccuRay Process**—Electrons, emitted from an Atomic Isotope, scan sheets of coated tire cord, controlling uniform application of select insulating rubber within precise tolerances of  $\pm .001$  inch.



You'll go farther, SAFER...on tires by  
**DUNLOP**  
They're AccuRated

DUNLOP TIRE AND RUBBER CORPORATION, BUFFALO 5, N.Y.

**P.S. Golfers**—you'll never know how good you are until you play a Dunlop ball.

16 MOTOR TREND/JULY 1957

## RUMOR MILL

continued from page 14

dealers are having little trouble selling F.I. to their customers. They would like more units even though the price is still high. Some dealers are having trouble getting the installations to give trouble-free service. Chevy's F.I., when properly tuned and adjusted, is remarkable performance-wise though a bit disappointing as regards fuel consumption. Few mechanics are, as yet, sufficiently wired in on the precise methods of tuning the F.I. units to give best performance; too often the engine is either starved for fuel or overfed. Time, that great remedy, plus experience and coming improvements for '58, will bring F.I. into its own, we are told.

**"You will soon be able to buy air springs for your older model car."**

**TRUE**—As production gets under way and when the demand for units for the new '58 cars is satisfied, you'll be able to purchase conversion kits to give the family rig genuine *air suspension* (see pages 18-21). In some cases only the front coil springs will be capable of being replaced, at least initially; those whose older cars use coil springs at all four corners will have the easiest modification.

**"That rear-facing station wagon third seat is meeting resistance in some quarters."**

**TOO TRUE**—And with very good reason, though not because the customer dreads riding backwards as many had pre-supposed. The objection is (and this is one we have personally considered many times) that the unfortunate rearward facing passengers get an uncomfortable case of light blindness from following cars at night. To duck the inevitable following headlights, the poor critters aft have to turn their heads or twist their bodies sideways. Installation of draw-curtains or even louvered blinds would help the light-struck passengers, but then the driver's rearward vision would be reduced to a minimum despite good side-mounted mirrors. Where this riding hindsides-foremost will lead is anybody's guess. Have you got an idea?

**"There will be an optional four-speed gearbox available on Volvos."**

**POSSIBLE**—Though we suspect the 85-horse engine will be on sale before the box is. Four speeds forward would be just the thing for the average guy who needs a combination family sedan and sports job capable of a bit of weekend fun on the regional circuits with other four-cylindrical friends.

**"Ford of England will have some new models for the '58 who-gets-the-Yankee-dollar season."**

**TRUE**—The way we hear it the handy little Anglia and Prefect will blossom forth in new bodies with some important inside and underside changes as well—these two cars (really the same except for number of doors) have worn the same outer garments, now, for four long years.

Suddenly you two are coming closer and closer to everything your racing hearts have ever wanted . . . in the compact, disc-braked superiority of the Triumph TR 3.

Let her out — flat out — on the open road and feel it in your own hands. At 100 plus that wheel tells you the invisible railroad track is still there . . . that here, at last, is a road-hugging ability equal to high speed performance.

Add to all this excitement precision roll-free cornering . . . the positive, quick-snap, ultra-short gear lever . . . and you've spelled out *real* driving. Add the constant reliability of Girling disc-type brakes\* and lightning acceleration (0-50 in 8 sec.) for security . . . and you've spelled out Triumph!

Get in on this road-hugging now . . . see your Triumph dealer!

STANDARD-TRIUMPH MOTOR COMPANY, INC., Dept. M7 • 1745 Broadway (at 56th St.), New York 19, N.Y.

\$2625. plus tax and license at U.S. ports of entry. (Slightly higher West Coast ports.) Wire wheels, hard-top, rear seat and overdrive optional extra

**SPECIFICATIONS:**

**BRAKES:** Girling disc brakes on front wheels\*

**TOP SPEED:** 110 MPH

**MILEAGE:** up to 35 MPG

**ENGINE:** 4 cyl. (OHV) 1991 cc

**OUTPUT:** 100 BHP

**ACCELERATION:** 0-50 in 8 sec.

**MAINTENANCE:**

Parts and service available coast to coast!

Free Brochure and dealer list on request.

Write now — for fun!

\*A Triumph-plus . . . as standard equipment.



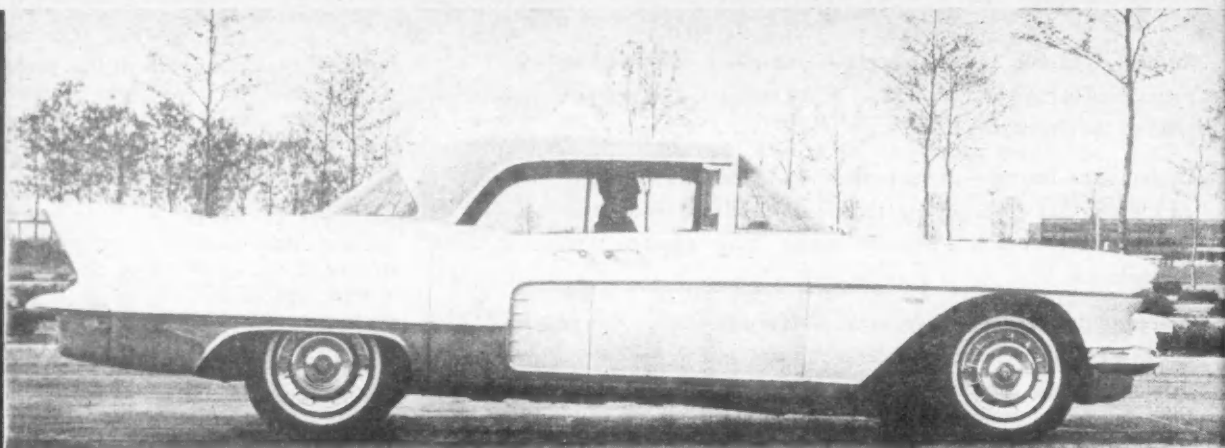
A new experience in road-hugging

TR3

TRIUMPH TR3

only \$2625





## We drive the Cadillac Eldorado Brougham to see what

by Joe Wherry

**THE IDEA OF AIR SUSPENSION** for passenger carrying vehicles dates back farther than the automobile. In 1847 a Mr. John Lewis obtained patent letters on an early concept that was to have been used on wagons. Then in the early years of this century a Benjamin Bell did considerable work on sleeve-type air springs with pistons of various shapes—Bell, too, was granted a patent.

Twenty or more years ago several of our major rubber and tire manufacturing firms devoted much time to laboratory experiments directed toward the development of an economical, durable, and dependable method of smoothing out the bumps via air suspension. Indeed, one of the Big Four tire companies has a rolling example of a 1934 low-priced car with rubber air springs. Truth is that this semi-ancient experiment looks very little different from some of the current examples illustrated on these pages.

Before we checked with the tire "Big Four," we had a chance to drive the air-suspended Cadillac Eldorado Brougham. We enjoyed it, but found that only the most naive would subscribe to the idea that it gives a bump-free ride. Four air-spring assemblies replace conventional springs at each wheel. (See Figs. 1, 2 and 3.) These spring assemblies consist of a rubber bag open at top and bottom and looking not too unlike the familiar household gadget called the "plumber's friend." These open-end air bags fit into a bell-shaped receptacle which in turn is installed in the frame or chassis. The air springs are held in place by fairly ordinary retainers that, of course, are specially designed for this installation.

Three leveling valves, one at each rear wheel, and one at the front for both front air springs, meter the correct amount of air to each air spring. Actuated by a control rod which reacts to the upward or downward movement of each individual wheel, the leveling valves supply air to

their respective air cells to keep the road clearance of the car at a constant height regardless of the load carried in the trunk or inside.

A solenoid package consisting of two pairs of valves is placed automatically in operation whenever a *door* is opened or the *ignition* key turned on. One pair of valves meters air flow for fast or slow leveling; the other pair of valves blocks off air flow for parking operations (or when the car traverses occasional bumps and dips) and whenever one needs to change a wheel. *Rapid* leveling occurs whenever the passenger or luggage trunk load changes; *slow* leveling takes place when the car is in motion.

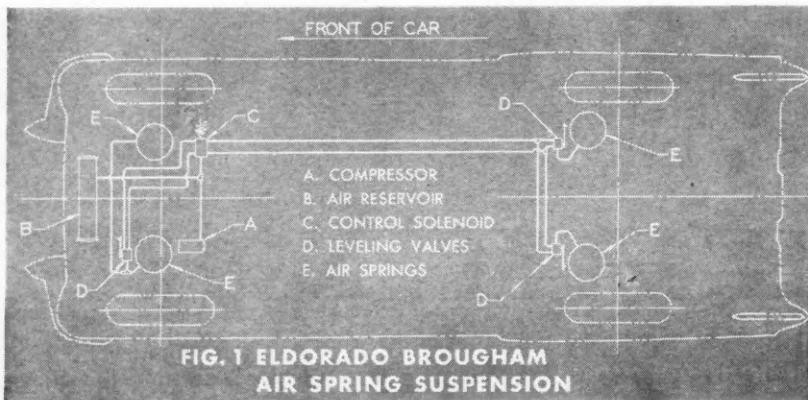
An air accumulator (or reservoir) and the compressor sit atop the generator, can be held easily in the hand, and are actually the heart of the entire system since they maintain the required supply of air for a level attitude and constant height above the ground. Powered with a 12-volt, 15-ampere electric motor, the compressor also contains a pressure activated limit switch, which starts and stops the compressor. Internal pressure is constantly

maintained at from 100 to 120 psi in the storage reservoir.

Open the door to enter and you immediately hear a low hum; sit in the driver's seat and as soon as the left side drops a shade, the leveling valves go into action and the car regains its unladen attitude. The pistons in the air springs, shaped much like a bullet, press upward into the air bag whenever a load is imposed—this accounts for the springing action which is softer and absolutely without noise.

A rough, busted-up three miles of ancient concrete road provided a good place to drive both a conventionally suspended Cad 60 Special and the new airborne Brougham. There is no doubt that the ride is amazingly improved, but riders and driver too (through the entire structure) still feel shocks; the edge or sharpness of the bump and rebound is taken away.

Cornering under power produces as much heeling over as in a regular line Cadillac and more than in some current domestic cars with suspensions engineered specifically to maintain a level cornering attitude, regardless of the stresses imposed



# RIDING ON AIR IN '58

**it'll be like and study air springs by three major firms.**

by the centrifugal action of a fast turn. Nose dipping on fast stops is still present, as our accompanying photograph (taken at 1/500 second) shows. Of course the whole aim in the prestige car field is to give something not readily obtainable at modest prices, and a super-soft ride without the sharp hiccup effect of conventional steel springing has been the result.

When we try something new we naturally seek to compare it to the next best thing we have ever experienced. Hence, the ride of the Citroen DS-19 came to mind. The DS-19 has air-over-oil suspension, and we honestly believe it has every bit as good a ride as does the new Brougham. (Other pictures of the Brougham are on page 68.—Editor)

**FIRESTONE'S "AIRIDE" SYSTEM.** Soon

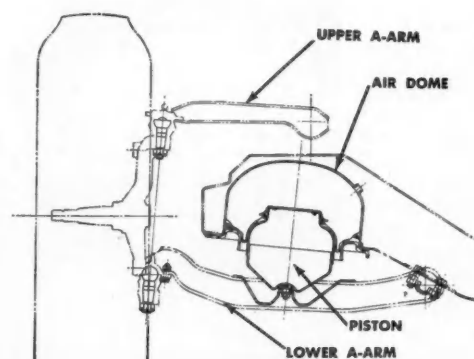
after this issue reaches the reader, Firestone will begin producing rubber air springs in volume in their new factory in Noblesville, Ind. The trade name for the system will be "Firestone Airide" when marketed by the maker. If the material placed in our hands is any indication, Firestone probably will be the biggest supplier, initially at least, of air suspension components. Since Firestone begins mass production in July, it's obvious that some buyers of '58 cars will ride on "Firestone Airide" springs.

According to Firestone officials, the "application of Airide springs to new passenger cars may be expected within the next year or two." The *italics* are ours, but the word *next* almost certainly indicates '58. And about one year ago Mr. J. E. Trainer, Firestone's Executive Vice-

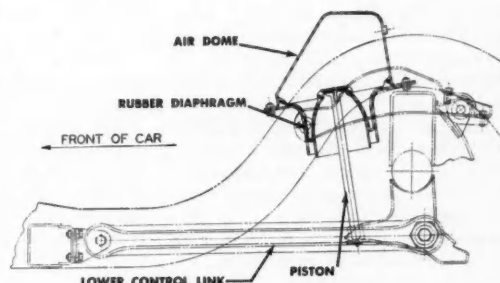
President, announced, "It appears certain that the research and development work done in this field will culminate in the application of air springs to passenger automobiles in the very near future."

The development work alluded to by Mr. Trainer was, principally, in cooperation with Greyhound Bus Corp. and G.M.C. The former has been operating air-suspended cross-country buses for some time and the latter has already exhibited a new lightweight railroad train equipped with air springs. Many trucks, too, have used Firestone's system for several years. A significant virtue that air suspension will bring to the passenger car driver is decreased maintenance and repair costs. A major bus company, after experiencing over 300 million miles with

**continued on next page**



**FIG. 2 ELDORADO BROUGHAM FRONT SUSPENSION**



**FIG. 3 ELDORADO BROUGHAM REAR SUSPENSION**

## "Riding on air in '58

# will be like sleeping on a soft mattress in a slight earthquake ..."

continued from preceding page

"Airide," has reported so few repairs and parts replacements that it "has stopped keeping replacement and repair cost records."

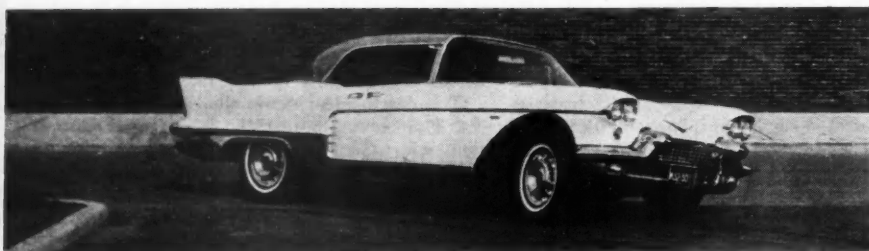
Here's how Firestone's Airide system works: A metal air tank, self-regulating valves, and the associated plumbing enclose a variable amount of air. The springs, one to each wheel, look something like a small rubber tire of the old "doughnut" variety popular back before the war. (See Fig 4.) Built around a drum from several plies of nylon fabric impregnated with rubber, the "spring" is vulcanized in a mold. Depending on the particular vehicle for which the spring is intended, one

your older car. In answer to our question as to whether some models of the Firestone air spring could be used as a replacement for the current coil springs in pre-'57 cars, we were told that there is a very good chance that this can be accomplished. This seems especially possible beneath those cars which have four-wheel coil-spring suspension (current Rambler, Nash, Hudson, and Buick models); where other makes are concerned, it is likely that the front coil steel springs may be replaceable with the "Airide" units. The one disadvantage would be finding suitable places for the installation of the compressor, storage tank, and the leveling

qualities decrease and high body maintenance results from the constant vibrations transmitted through the suspension system.

General has developed what they call *elongated air bellows* which are used extensively on commercial vehicles. On successful installations in Mack buses, four of these bellows are mounted above each axle at the ends of rigid truss beams; these bellows are then secured to the ends of the axle in exactly the same way as are conventional leaf springs.

The Goodyear *elongated bellows* air springs, quoting Mr. Hirtreiter, "consist of an upper and lower (air) bag with a grommited air passage connecting the two sections. (See Fig. 5.) The bags are vulcanized together and bonded to rectangular steel plates at the top and bottom. Each bellows is provided with a large solid rubber block in the upper bag to prevent a complete collapse of the suspension in event of deflection. Rectangular steel air reservoirs are attached to the frame (of the vehicle) and are parallel with the lower beams. These reservoirs communicate with



to three of the air bags are joined together to make a complete "Airide" spring. Installed at the ends of each axle (much in the same manner as are coil springs), these bellows are connected to the air tank and valves by metal tubing.

The air tank itself is kept at a suitable and predetermined pressure by a compressor which is usually driven off the generator (as in the case of the Brougham), and the valves are actuated by the amount of weight placed in the vehicle. Thus the vehicle's constant road clearance is maintained. Firestone officials hasten to point out that there is currently some discussion as to whether the valving system should be activated instantaneously or whether there should be a slight delay.

If instantaneous action is desired, there would be a constant exchange of inside air pressure in the air springs—whenever the vehicle was subjected to bumpy roads and in cornering. The consensus is, and this seems reasonable to us, that a delayed action is preferable—in other words, the number of passengers carried and the distribution of the load (as when heavy items are placed in the trunk) will actuate the air tank and valve systems. Thus, the compressor will be called upon to supply additional air when leveling or other lateral correction is needed.

"Airide" springs may be applicable to

valves with a rather complicated system of plumbing and actuating arms.

"AIR LIFT" RUBBER BAGS have been popular for several years and while these constitute only a *semi* sort of air suspension, they do go a long way towards accomplishing what full *air suspension* will do—namely, give you the smoothest ride you've ever experienced (the bumps and ruts, though still felt, will seem to have round edges and be more shallow. There will be less fatigue noticed by passengers and driver, and you will note a new quietness and seemingly more solid ride. Vibrations which loosen body and chassis bolts will be virtually eliminated with complete air suspension.

The fact that the wear and tear due to constant vibration is decreased almost to the vanishing point *may be* one reason why the swing to *integral* or *unitized* construction may be much less pronounced than was thought earlier this current model year.

GOODYEAR ENGINEERING PEOPLE have this to say of air suspension—stating the case as Goodyear's Mr. A. B. Hirtreiter (Industrial Products Design staff) sees it, conventional coil and leaf springs have one principal drawback: due to age and the associated deterioration, the riding

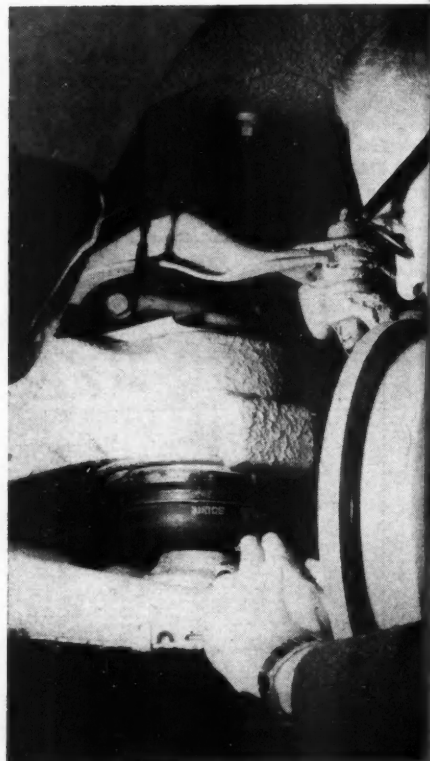


FIG. 4—Firestone Air Spring



the bellows through accurately machined orifices. The relative softness of the suspension and the natural frequency of the suspension is determined by the ratio of the bellows volume to the total volume of air."

Goodyear has more recently developed an air spring which is *self-sealing*. Installed on two end plugs, both tapered, the self-sealing spring requires neither bolts, nuts, nor clamps. The same sealing principle as that used on tubeless tires is applied, in this instance, and has so far been extremely successful. The seal is leak-proof and requires no tightening or any other adjusting.

Goodyear's air spring is in Hirtreiter's words, "built with integral bead and girdle rings and is a complete unit in itself. A small safety lip, similar to that used on passenger car tubeless tires, may be incorporated in the end plugs to help resist the bellows coming off their seats at excessive extensions."

Maintenance, therefore, is substantially reduced. If removal of the vehicle's axles is required, the air springs are removable in a very few minutes; they are just as quickly installed because they are held in place, as it were, by their own sealing action.

Art Hirtreiter goes on to explain that a newer development (not exclusive to Goodyear by any means), the *rolling sleeve or rolling lobe* type, requires very little, or none at all, expansion volume. (See Fig. 5.) In this type air spring the frequency is determined by the volume of air in the spring, the shape of the piston, the degree of exterior support, and the volume of the expansion tank. To get low frequency, a requirement for an ultra-soft ride, a piston having a decreasing section from the top to the bottom is necessary. This results in a decreasingly effective area in comparison to an increasing area (from top to bottom) as is common in bellows type air springs. It is just this type concept that was embodied in the 1947 Lewis patent.

Goodyear's rolling lobe air spring uses a self-contained air spring with a formed piston but there is no external air container; the construction is such that a fixed outside diameter is maintained without additional restricting means. Goodyear engineers believe that this rolling lobe type may offer the greatest overall advantages because of its greater simplicity, lower cost, flexibility which it has to an extreme, and a very low rate of frequency. At most, only a very small reservoir for expansion is necessary and, according to Hirtreiter, the complete elimination of the expansion chamber may be feasible.

Leveling and height control valves are, in the Goodyear view, more subject to change, at this time, than the overall method of providing the actual air springing. As it stands now, though, Goodyear is in a position to go on air suspension for your car and mine; they've got the

know-how, and they have the actual air springs and the means to turn them out in the volume production that may be required before the printer's ink dries on this issue.

A letter received just prior to this writing from Goodyear's Art Hirtreiter had this interesting comment: "While the riding qualities are not nearly as constant with the *hydro-pneumatic* system, it, too, holds a great deal of promise for passenger car suspensions because of its simplicity and compactness. The built-in shock absorber principle and the absence of air compressor are two big factors which can very well overcome some of the minor shortcomings of the hydro-pneumatic design."

**GENERAL TIRE CO.** has less to say than the two previous firms, but they claim large reduction in the space required for installation and the "lowest spring rate—or softest ride—yet attainable."

A band-diaphragm unit is the General entry in the big air spring derby. This, briefly, is an air cell "retained by a metal band to form a rolling diaphragm." As in other concepts, the load is supported by the pressure of air acting against "an area (referred to as the 'effective area') permitting a constant car height regardless of the number of passengers."

The floating girdle band, which looks like a sleeve, on General's air spring (see Fig. 6—p. 69), takes a varying suspension geometry into consideration without disturbing or altering the spring's action. Made of Nygen fabric and rubber, the General air cell compresses the air which is then acted upon, due to the car's action, by the piston.

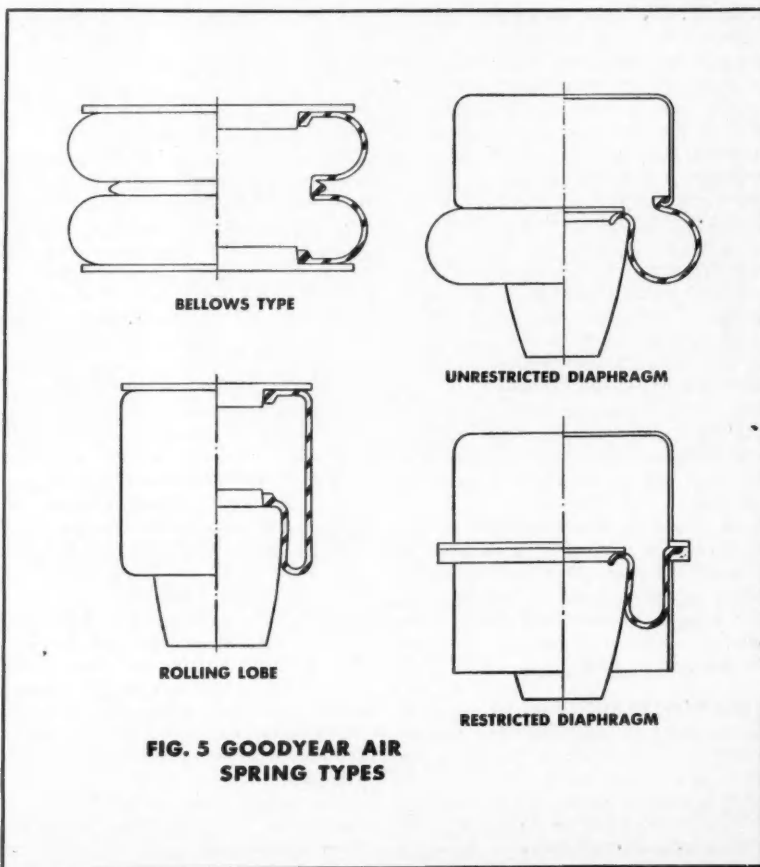
General's air spring differs from others in that: 1) The piston can be firmly attached to the suspension arm eliminating additional heavily loaded joints; 2) the space required is considerably less; 3) the characteristics derived allow greater design flexibility; 4) the design does not rely as greatly upon the fabric and rubber, thus assuring longer life.

These are General's statement, in brief, and not ours. We must hasten to say that we have not yet been able to sample the General air spring ride.

**GOODRICH WOULD NOT COMMENT** at this time but this does not mean that Goodrich is not busy with an air ride of their own. We know they are, and so are a number of smaller manufacturers like Armstrong, Norwalk, etc.

**THE GREATEST BENEFITS** of air suspension are increased durability and a no-

continued on page 69



# '57 NASH ROAD TEST



AN MT RESEARCH REPORT BY OTTO ZIPPER

**LIVING WITH THE NASH** Ambassador Custom for a week and driving it a few hundred miles prove that Nash continues to stress two important design and engineering qualities: convenience and safety. While other companies appear to concentrate major attention on horsepower and eye-catching appearance, American Motors emphasizes safety and convenience in the Nash and Hudson cars.

This is not to say, of course, that other manufacturers are ignoring these important features, or that American Motors is giving public fancy the go-by. Indeed, most companies show definite recognition of the frailties the human body reveals upon high speed contact with metal; but too many of them, unfortunately, do not pay close enough attention to the ease with which mechanics can get at engine parts and passengers can get into and out of the car.

In regard to accessories and styling, Nash, for its part, offers a selection of optional equipment that could array the car as luxuriously as any on the road, and a variety of colors and chrome trims that, in certain combinations, can only be described as gaudy.

**THE UNITIZED BODY**, with the body and frame members fused into one part by more than 9000 electric welds, is the most rigid of any made in the U.S., excepting Hudson, of course, which shares Nash construction at the A. M. plant. One immediately becomes aware of the solid-

ness of the body merely by closing a door. No squeaks, no rattles, just a good, sound "thump!" As a matter of fact, general assembly of the entire car is above average. Detailing, trim and paint are well done and interior fabric work is good.

The size of the car is somewhat deceiving. The appearance is of a very large car, whether in or out of it, and it does give a feeling of bulkiness. It is, actually, one of the smallest "big" cars, being 209 inches in overall length as compared to 216 inches and 218 inches for the DeSoto, and 211 inches for the Mercury, for example. And the Nash is not significantly any higher. Perhaps the extra roomy seats, 65 inches in width (widest in the industry) and exceptional headroom and legroom account for this impression.

**OUR TEST AMBASSADOR CUSTOM** four-door sedan was equipped with Hydramatic, power brakes, power steering, radio, heater, white sidewalls, and air conditioning. None except the power brakes are standard, thereby hiking the price from the \$2698 f.o.b. factory list. Power lift windows are also available, as is a special locking device for the rear doors. These doors can be opened only by a key, thereby giving "two-door" safety to a four-door car. Called "Child-Guard" door locks, they are, to our way of thinking, an excellent idea.

The padded dash and sun visors are standard, as are safety door locks. The "Handi-pak" carrier (a netting stretched

hammock style behind the sun visors the width of the car) is a boon to those who persist in using sun visors as carry-alls. The dash is not of the best design, instruments being located rather too far right for quick reading. The glove compartment, cigarette lighter, etc., are convenient to the driver. The only objectionable particular is the steering wheel position, which is too high, and the column hub, which projects far above the wheel rim and could interfere with driving, especially in turns.

You have to travel in a car with reclining seats to appreciate the restful ride they give you. If you travel with a partner, he or she can rest while you drive. Traveling alone, you can lounge in the seat by the wayside. And the fact that seats make into a bed may chagrin motel operators. As incidental intelligence, we'll say that

continued on page 46



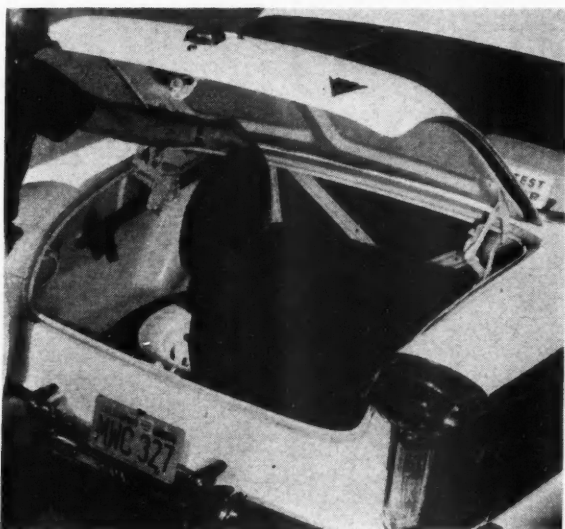


**RECLINING SEATS**, one of the most desirable features of the Nash, come as standard equipment on all models.



**STEERING WHEEL** has column hub protruding far above rim, which could interfere with arm movement in turn.

**SPARE TIRE** stows neatly away under floor mat, giving the trunk compartment a roomier, cleaner appearance.



**ENGINE COMPARTMENT**, complete with full power equipment, includes one of best air conditioning units tested.



PHOTOS BY D. OLIVO

## Performance and Specifications

**ENGINE:** Ohv V8. Bore 4.00 in. Stroke 3.25 in. Stroke/bore ratio 0.81:1. Compression ratio 9.0:1. Displacement 327 cu. in. Advertised bhp 255 @ 4700 rpm. Bhp per cu. in. 0.78. Piston speed @ max. bhp 2546 ft. per min. Max. bmep 159.1 psi. Max. torque 345 lbs.-ft. @ 2600 rpm.

**TRANSMISSION:** Standard shift has 3 forward speeds, 2nd and 3rd synchronized. Overall ratios: 10.21, 6.52, 4.10. Rear axle ratio: Conventional and overdrive 4.10:1, automatic 3.15:1. Automatic transmission is Hydra-Matic.

**CHASSIS:** Single unit body and frame. Suspension by 4 coil springs, direct-acting shocks.

8.00 x 14 tires. Hydraulic duo-servo brakes. Worm and roller steering gear, with 45-ft. turning circle, 4.5 turns, lock-to-lock, 25.4:1 overall ratio.

**DIMENSIONS:** Wheelbase 121.3 in., overall length 209.3 in., overall height 60.4 in., overall width 78 in., minimum clearance 6.4 in., front tread 59.1 in., rear tread 60.5 in., weight 4100 lbs., weight/bhp ratio 16:1.

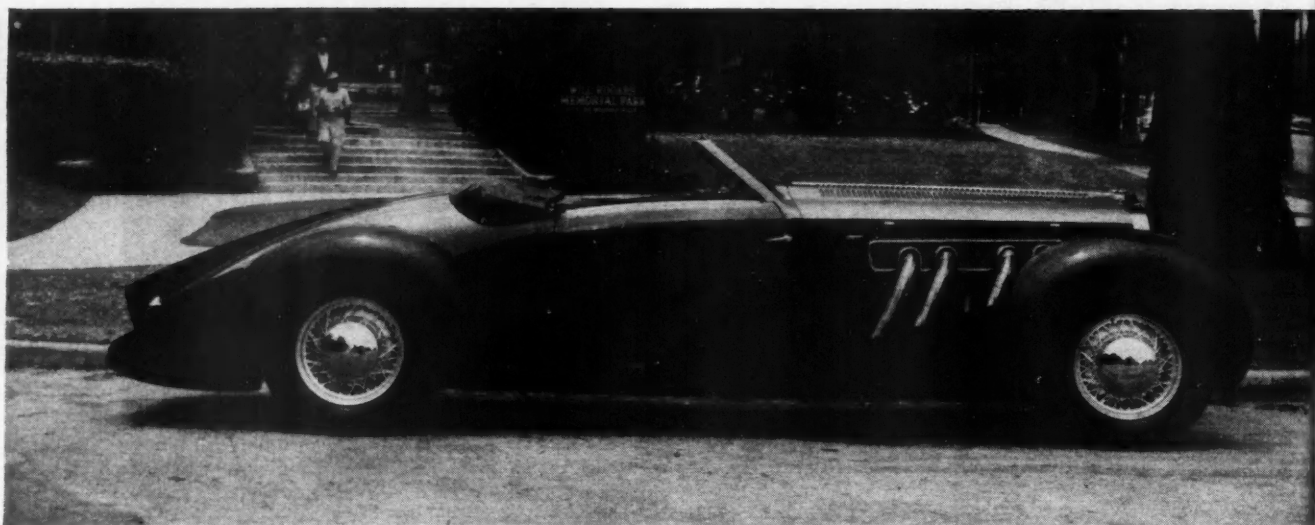
**PERFORMANCE:** Max. speed 100+ mph. Acceleration: from standing start to 45 mph 8.0 secs., to 60 13.0 secs., ¼-mile 18.3 secs. and 71 mph, 30-50 mph

5.4 secs., 45-60 5.1 secs., 50-80 15.4 secs. Fuel consumption average for 230 miles 13.9 mpg.

**PRICES** (Suggested retail price at factory, including federal tax, delivery & handling charges, but not freight): AMBASSADOR SUPER 4-door sedan \$2821, 2-door hardtop \$2911. AMBASSADOR CUSTOM 4-door sedan \$3011, 2-door hardtop \$3101. (Power brakes standard on Custom.)

**ACCESSORIES:** Hydra-Matic \$232, power steering \$100, power brakes \$40, power windows \$110, radio \$90, heater and defroster \$83, air conditioning \$415.





PHOTOS BY BOB D'OLIVO

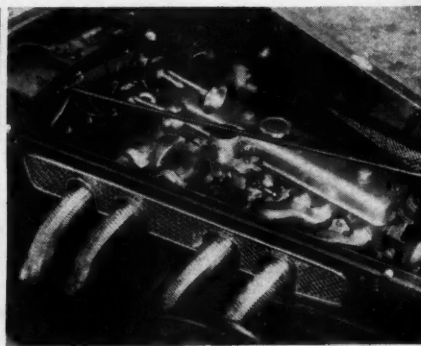
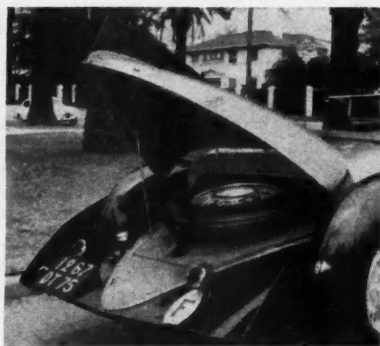
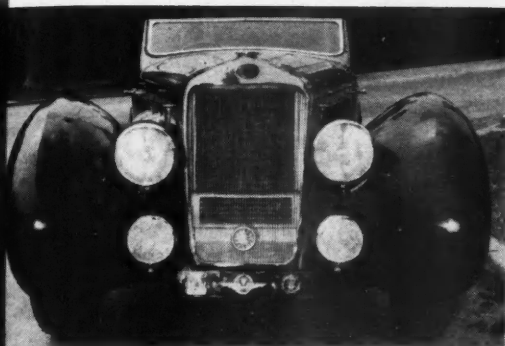
## beautiful conversion of a 1927 Grand Prix



**THOUGH NOT ORIGINAL**, this 1927 two-seater Grand Prix Type 37A Bugatti has been so beautifully converted for street use that it still makes a Bug addict drool. Otto Zipper's recent acquisition, its modifications include the cutting of the pointed boat-tail to mount the spare (normally side-mounted), the addition of pontoon fenders, headlights, starter, generator, battery, and a conversion to hydraulic brakes from the cable-operated mechanicals.

Engine is 91-cubic-inch 4, with three valves per cylinder, operated by an overhead camshaft. The A in 37A stands for its Rootes-type blower, which helps it to achieve speeds above 100 mph. Suspension is by semi-elliptics in front through a tube axle, and quarter-elliptics anchored to the frame end, running forward to the rear axle. Wheels are aluminum, with cast-in drum and steel liner. Steering is phenomenally quick, with only  $1\frac{1}{4}$  turns lock-to-lock.

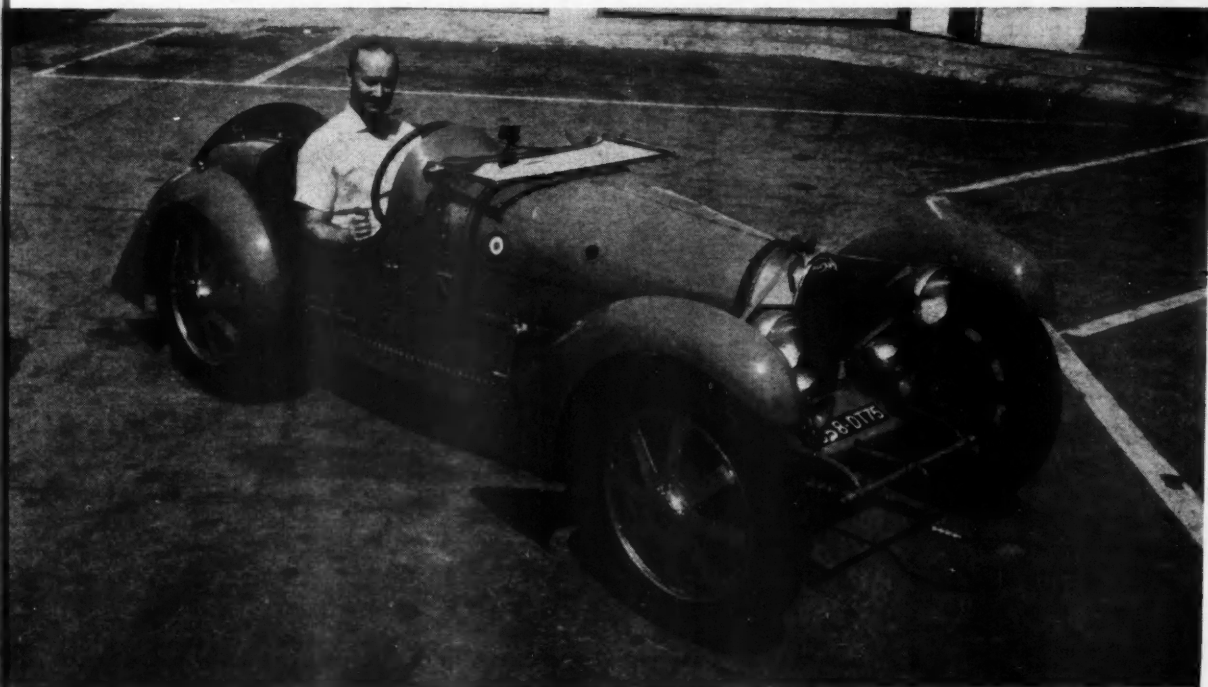
## • • five-finned French convertible speedster



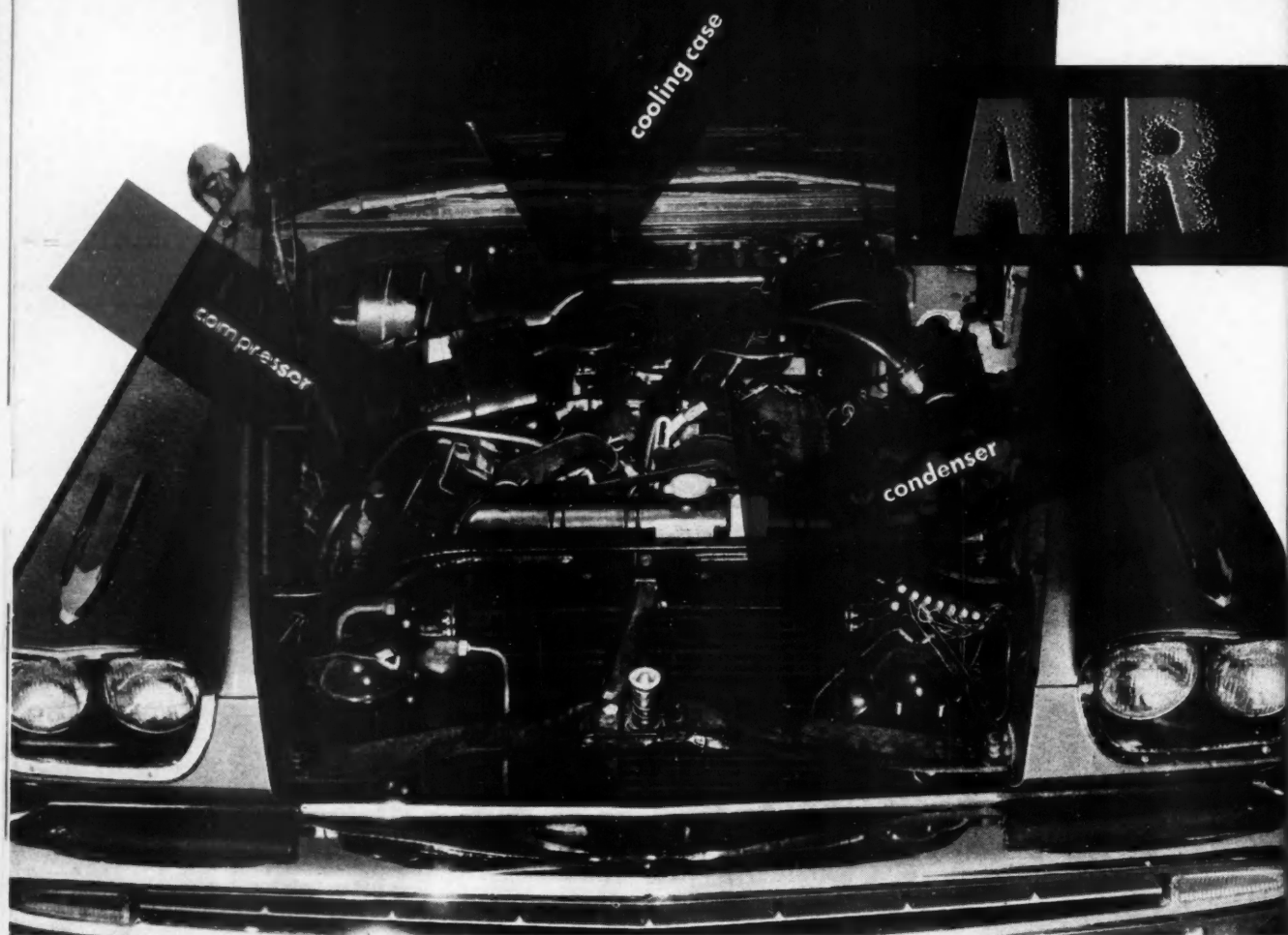
**I**N 1938 FINS WERE HARDLY THE RAGE either here or abroad. Yet this Delage sports touring convertible speedster boasted thin plates resembling fins attached to each fender and on the rear deck. They give this French one-of-a-kind classic an illusion of greater length, which it hardly needs with a 131.5-inch wheelbase. The special two-seater body is suspended independently in front with a transverse spring, and in the rear with two semi-elliptics. The ride, as on most Bugattis, is firm.

Engine is a pushrod-operated, overhead-valve straight 8 that idles at a fantastically low 250 rpm. It can throttle down to eight mph and then pull away smoothly to its top speed of over 100 mph. Though only four exhaust headers show, there's a fifth one that heats the dual-throat Stromberg carb. Other features include a four-speed Cotal electromagnetic gearbox (similar to the Cord) with controls on the column, one-shot lubrication, and hydraulic brakes with a separate system for front and rear.

## ...blown bugatti



PHOTOS BY AL PALACY



**ARMED WITH FACTORY-INSTALLED** air-conditioning in a DeSoto, we took ourselves into the heart of Texas and the center of the independent automobile air-conditioning industry. The purpose of our little junket was to talk first hand with the people that build, use, and appreciate a device that can make your hours behind the wheel a lot more livable.

Automobile air-conditioning, in one respect, boomed off to a bad start just four years ago. Priced from \$600 to \$700, it was immediately tagged as a luxury item for a chosen few. Today this is not the case. A package containing radio, heater, power seat, and power windows will cost you as much or more than air-conditioning. The average price of factory installed units is now about \$435, underdash units average \$355 installed and trunk units \$420 installed.

Present prices seem justified. There is nothing new or revolutionary about the components of an air-conditioning system and production costs are pretty well stabilized.

Automobile radiators and air-conditioning condensers, although the condensers are somewhat smaller, are very similar in construction. The replacement cost of a

radiator for one popular make of car is \$98.50; conversely, the replacement cost of a condenser is about \$55. Some slight price shrinking, because of production volume, can be expected as the industry grows. And growing it is; independent manufacturers have orders on file which will more than double last year's output.

No one can fully appreciate an air-conditioner in his car until he has lived with it. Even in temperate weather it can make a long highway trip more enjoyable. You can keep the windows closed to get away from annoying wind buffeting, road noise, and dust. In humid weather the dehumidifying action of the evaporator will make you feel less sticky. The air in your car will be dryer because moisture condenses on the evaporator coils and is drained off to a point outside the car. In hot weather the advantages are obvious and in all cases you will wind up your trip, regardless of length, feeling fresher, cleaner, and less tired.

Health and safety both get a definite boost from car air-conditioning. Many units are equipped with filters which aid in screening out allergy-producing pollen and dust. The dryer air inside the car will help many who suffer from respira-

tory troubles. We were told about an asthmatic who uses his air-conditioner both winter and summer. In cold weather he leaves it on to filter and dry the air and at the same time uses the heater to keep warm. Dust and insects which may enter open windows to land in your eyes are a definite highway hazard. Driver fatigue is a prominent factor in traffic accidents and the driver who travels in cool comfort is less accident prone than one exhausted by heat and humidity.

**THE HEART** of an automobile air conditioning system is the compressor, which because of the high demands of automobile cooling, has sufficient capacity to cool a small house. The compressor delivers the refrigerant gas under pressure to the condenser located in front of the car radiator. As the gas flows through the finned tubes of the condenser it is cooled by the air flow produced by the forward motion of the car and the engine fan and thus condenses to a liquid state. In liquid form, the refrigerant is delivered to the evaporator which is located in the cooling case and consists of a series of finned tubes. In the evaporator the refrigerant boils back to a gaseous state and in so



# CONDITIONING

**IS NOT A LUXURY.**

**PRICES FOR BOLT-ON**

**UNITS RANGE FROM \$310**

**TO \$380 AND ANY CAR**

**. CAN BE AIR CONDITIONED**

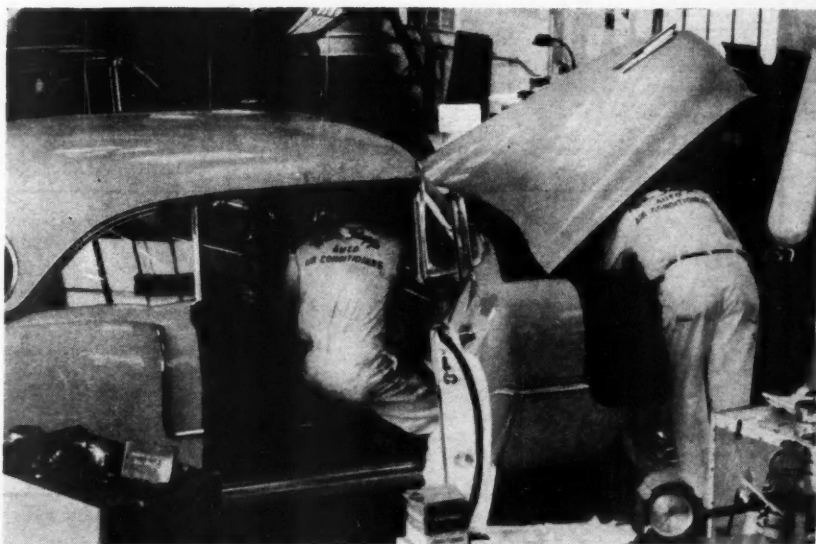
by Robert C. Scollay

doing absorbs heat and cools the evaporator unit. A fan or blower then forces the air through the evaporator to decrease the temperature.

Compressors in most systems are driven through a magnetic clutch. This clutch is actuated by either a manual or thermostatic switch so the compressor will not operate when the system is idle. Some systems allow the compressor to run continuously, but the load is removed by an automatic bypass valve when the system is not in use. Other control elements in most systems include a manual or pre-set temperature selector and blower or fan speed controls to regulate the volume of cooled air.

When you select your air-conditioner you will be faced with a variety of choices. Factory-installed units now generally have the evaporator or cooling unit mounted on the engine side of the firewall, whereas it formerly was located in the trunk. In factory systems fresh air is drawn from outside the car and cooled air is distributed either through grilles adjacent to the unit or through a duct system and overhead outlets. The underdash and trunk units built by independent manu-

continued on page 29



**MANY DEALERS AND INSTALLERS** are finding it necessary to expand their shops to meet the growing demand for and public acceptance of air-conditioning as a highly desirable, almost necessary accessory. This year independent dealers are expected to install about 154,000 units or double the number they placed in service last year. These shops will also be called upon to provide maintenance services for all types of automotive units.

## ACCESSORY TYPE AIR-CONDITIONING UNITS

Name and Manufacturer	Type	Installed List Price	Temperature Control	Name and Manufacturer	Type	Installed List Price	Temperature Control
<b>AIRTEMP/MOPAR</b> Airtemp Division, Chrysler Corp., Dayton, Ohio	Under-Dash	\$365	B	<b>FRIGIKING</b> Front Mount Rear Unit Deluxe Rear Unit Frigikar Corporation, 1602 Cochran St., Dallas, Texas	Under-Dash Trunk	\$378 419 439	B, C
<b>ALLSTATE</b> Sears, Roebuck & Co., Executive Offices, Chicago, Ill.	Under-Dash	344	B	<b>LO-MERC</b> B-300 LB-100 ③ Lo-Merc Corporation, 2402 Houston Ave., Houston, Texas	Under-Dash Under-Dash	408 458	B
<b>A.R.A.</b> Direct-Aire Ford Thunderbird President (with grilles) President (with ducts) Station Wagon A.R.A. Manufacturing Co., 1041 Foch St., Fort Worth, Texas	Under-Dash Under-Dash Trunk Trunk Overhead	335 399 423 430 545	B	<b>MARK IV</b> Dash Model Trunk Model John E. Mitchell Co., 3800 Commerce, Dallas, Texas	Under-Dash Trunk	295* 345*	D
<b>ARCTIC</b> Under-Dash Model Trunk Model Overhead Model Arctic Automotive Air Conditioning, 926 S. Sixth St., Tucson, Ariz.	Under-Dash Trunk Overhead	379 489 565 up	N.S.	<b>MOBILETTE</b> <b>WEATHER-MATIC</b> Mobil-Aire Manufacturing Co., Box 122, Denison, Texas	Under-Dash Trunk	350 450	E E
<b>ARTIC-KAR</b> Penguin Iceberg Husky Alaskan Ice-maker ① Polar ② Capitol Refrigeration Manufacturing Co., 3922 Kallioch Dr., Dallas, Texas	Under-Dash Under-Dash Trunk Trunk Front	299* 339* 379* 419* 295*	B	<b>NOVI</b> Under-Dash Model Trunk Model Novi Sales and Service Co., Inc., Novi, Mich.	Under-Dash Trunk	310 375	H
<b>CLIMATIC-AIR</b> Under-Dash Model Trunk Model Climatic-Air Manufacturing Co., 804 West Erwin St., Tyler, Texas	Under-Dash Trunk	336 350	B	<b>PARKOMAT ④</b> Parkomat Manufacturing Co., 2000 So. Akard, Dallas, Texas	Under-Dash	348	E
<b>COOL QUEEN</b> Under-Dash Model Trunk Model Klaus-Joyce Inc., 5526 Dyer St., Dallas, Texas	Under-Dash Trunk	379 N.S.	B	<b>TOWNE AND COUNTRY</b> Champion Clipper Statesman Clardy Automobile Air Conditioning Co., 1728 Layton St., Ft. Worth, Tex.	Under Dash Under-Dash Trunk	318 348 388	E, F
<b>FORSTON</b> Under-Dash Model Trunk Model Forston Corporation, 1400 Conti St., Houston, Texas	Under-Dash Trunk	369 419	B	<b>VORNADO</b> O. A. Sutton Corp., 1812 West 2nd St., Wichita, Kansas	Under-Dash	370	B
<b>FRIGETTE</b> Frigiquip Corp., 3724 N. May Ave., Oklahoma City, Okla.	Under-Dash	325	B	<b>WIZARD</b> Wizard 2 Western Auto Supply Company, 2107 Grand Ave., Kansas City, Mo.	Under-Dash	300	A, G

\* Installation charge not included

N.S. Not stated

A Manual compressor on-off switch

B Manual temperature selector and thermostatic control of magnetic compressor clutch

C Constant cooling position on temperature selector

D Manual temperature selector and modulating valve which unloads compressor as required

E Pre-set temperature control and thermostatic control of magnetic compressor clutch

F Automatic/constant cooling selector switch

G Pre-set temperature control

H Manual temperature selector—magnetic clutch optional

① Has food, beverage, ice cube compartment

② Front unit for Chrysler Corp. cars

③ For Ford Thunderbird

④ Has pushbutton defrost control

### FACTORY-INSTALLED AIR-CONDITIONING PRICES

Buick ...\$430.00	Chrysler . 506.00	Ford .... 412.50	Lincoln . 475.00	Olds .... 444.00	Pontiac . 431.00
Cadillac . 478.00	DeSoto .. 446.00	Hudson .. 415.00	Mercury 430.00	Packard . 440.00	Rambler . 362.00
Chevrolet 430.00	Dodge ... 380.00	Imperial . 590.00	Nash .... 415.00	Plymouth 446.00	Stude ... 395.00

## Air Conditioning

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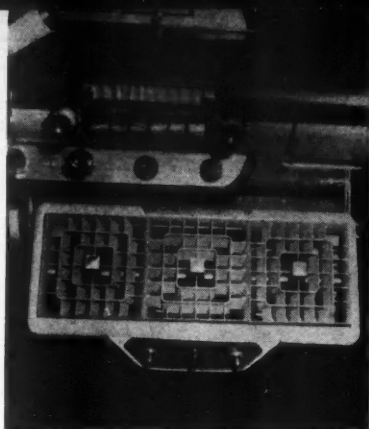
facturers recirculate the air within the car and depend on body leakage or momentary opening of windows as the source of fresh air. Both the re-circulating and fresh air types have characteristics on the credit side. In one case, the general ventilation of the car is better, and in the other the unit does not 'work' as hard to keep temperatures down in hot weather.

If you fancy one of the factory-installed units, you must of course order it with your new car. If your car is an older model you have no alternative but to purchase one of the independently manufactured or accessory type units. You have the advantage here of being able to transfer the unit to another car when you trade. Practically any car can be air-conditioned. Some foreign cars and a few domestic models present special but not insurmountable problems. If dealers do not have stock kits for a particular model, competent installers can fabricate special compressor mounts and re-shuffle underhood components to make things fit.

**BUYING AN AIR-CONDITIONER** with no demonstration is like buying a pair of shoes by looking at them in the store window. Make sure the one you select will fit your needs. If your demonstration ride takes place in a car with a white or light colored top, you may find it to be inadequate in your car if the top is black or dark colored. On a sunny day you can investigate this important effect of solar heating by comparing various roof top temperatures with your hand. Taking a thermometer with you on a demonstration ride can be misleading. After your air-conditioner has been turned on for a few minutes you will begin to feel cool. This does not mean that the inside temperature has dropped to cold-storage level. Actually you are experiencing the effect of a temperature differential between inside and outside air plus the fact that nature's body cooling system, your perspiration ducts, are working efficiently in dryer air.

To get the most out of your air-conditioner, you must remember it is a mechanical device that requires regular servicing. Veteran installer-dealers like Orville Stufflebeam in Phoenix and Babe Stapp in Los Angeles recommend at least a yearly and preferably a six-month checkup to make sure the system is properly charged with refrigerant and the compressor is in good working order.

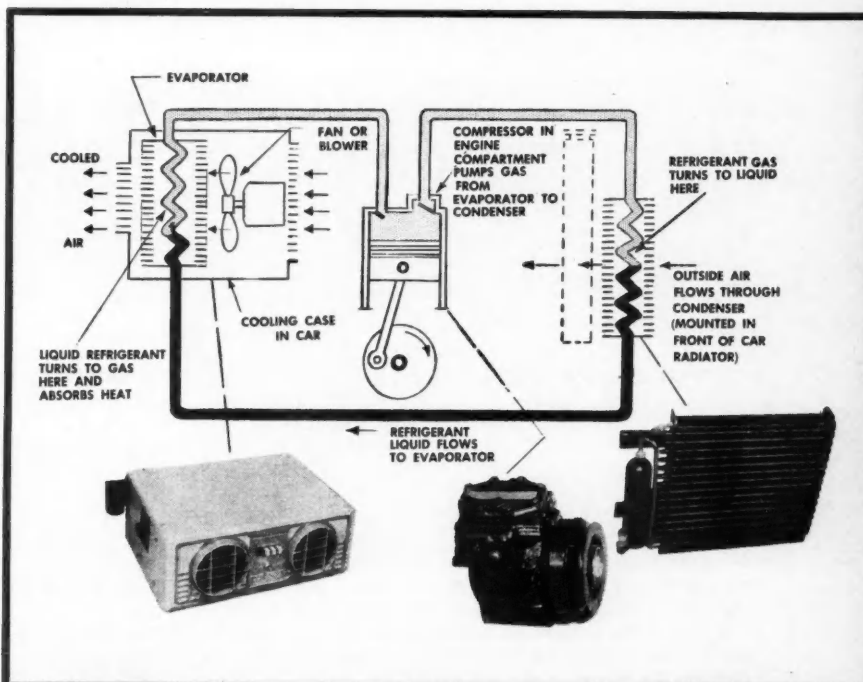
It would be trite to predict that air-conditioning is here to stay. The fact that 297,000 drivers bought air-conditioning last year plus the prospect that twice as many will do so this year seems to place car cooling as high on the necessary list as a heater.



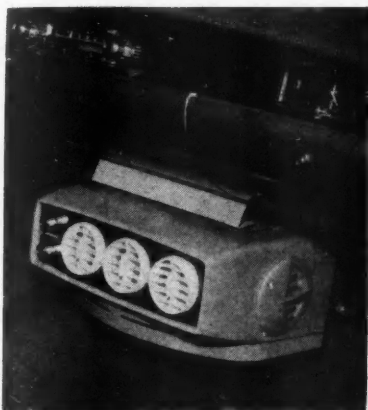
A. R. A. unit features large grilles to obtain maximum cooling air flow.



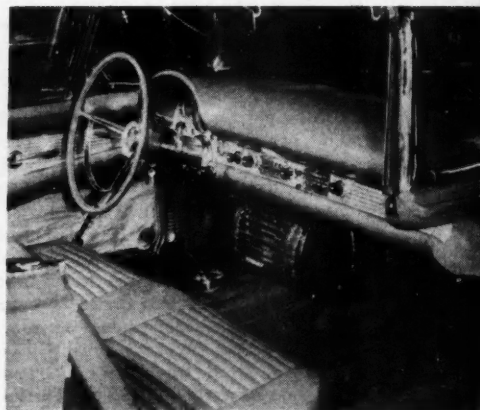
ARTIC-KAR trunk unit has compartment for ice-cubes, drinks, food.



SIMPLIFIED DIAGRAM shows how it works. Photos are of Clardy components.



VORNADO unit has three front, two side openings to help flow of air.



MARK IV fits nicely between under-side of dash and tunnel on T-Bird.





# FUN in a FIAT

An enjoyable road test-tour in Cuba with a Fiat 1100 TV convertible

story and photos by Joe Wherry

**NOW THAT FIAT** is at long last getting set to make an all-out assault on (or in) the imported car market in these United States, it seems fitting to determine just how good one of their top models is, what it can do performance-wise, and whether it can succeed against well entrenched competition.

It's rarely that we have the opportunity to test a car slated for, but not yet available on, the domestic market. However, enthusiasm for Fiat machinery has always been quite high in this country. So, when the writer met Sr. Luis Galbis Martinez and Sr. Manuel Rodriguez San Pedro during the recent Grand Prix of Havana, and when he learned that these two gentlemen of Galmar Motors Co. S.A. were the Distributors Nacionales for Fiat in Cuba and was offered a new Fiat 1100 TV, he leaped at the chance.

Frankly, I wanted to see some of the Cuban hinterlands; to do so from the cockpit of the tiny 1100 TV *Trasformabile 2 posti* (two-seater convertible) was better yet. My companion for about 140 kilometers was Chris Economaki, the well known editor of the tabloid, *National Speed Sport News*. Together we traversed the Route Nazionale southwest of Havana into Pinar Del Rio Province. The two-lane blacktop road was full of curves, sharp ones, and featured many unexpected obstacles to high average speeds—there were frequent domestic animals and even more frequent carts drawn by oxen, horses and the like.

Gasoline of suitable grade (benzin) costs from 33 to 37 cents per gallon; a coke is usually 10 centavos, a good steak dinner with all the trimmings can be had in the provincial inns with good service for \$1.50 up. In the large cities the latter tallies with domestic prices.

In the big cities and small country towns and villages most

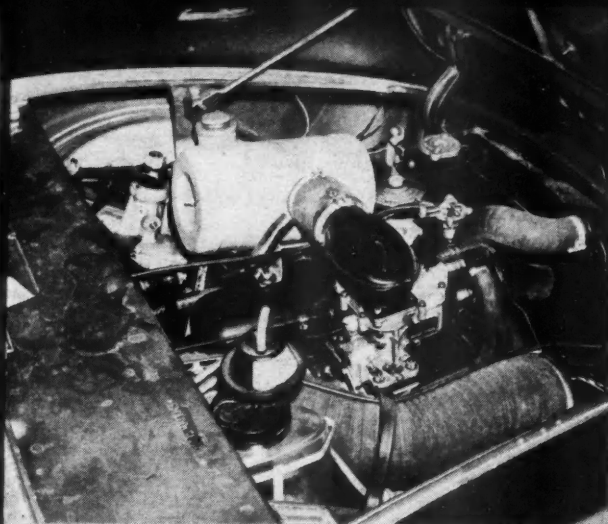
streets are narrow; there are few stop signs or other traffic control mechanisms except at major intersections. One soon becomes accustomed to driving with the horn; approaching a blind corner, the one who beeps first is considered to have the right-of-way.

Cubans are not insane drivers, but they do drive with spirit. Strangely they seem to prefer their own side of the road. I found it quite enjoyable. You'll also find the Cubans extremely polite and considerate. If an approaching car blinks its lights, you're being warned of danger ahead, which may be anything from animals or children in the road to a motorcycle policeman with a pad and pencil.

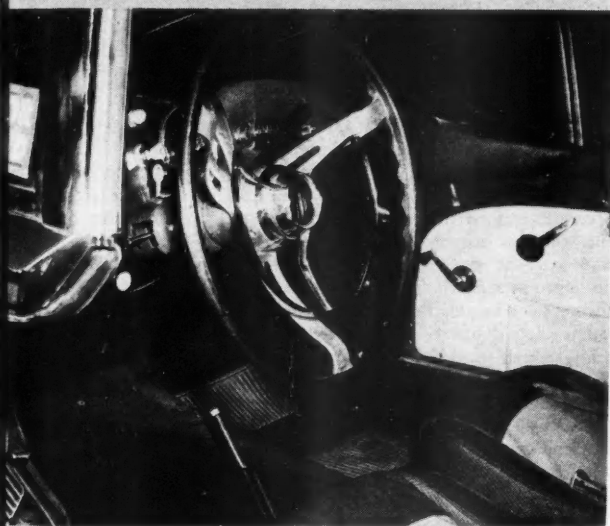
But, back to the Fiat TV. This is an extremely well-built car. Since the Cuban delivered price of \$3100 includes an import duty of at least 20 per cent, it would appear that judicious marketing at USA Ports of Entry could make the TV available to the consumer, on the coasts, for around \$2750 with the full complement of equipment including whitewall tires, chrome wheel discs, a sharp pushbutton radio, turn signals, seat belt for the single passenger, padded dash, folding top, and upholstery that looks as much like leather as if it were.

Our captions tell the details of this intriguing little two-seater, the specs have the information not covered due to space restrictions, and my notebook tells me that I'd like to do more driving in Cuba. If you feel the same way you might like to know that rental cars are available everywhere in the island republic for \$25 per week plus mileage (Couture, Avis, Hertz, etc.). Or, you can take your own family rig aboard the TMT Auto Ferry at Key West for \$62 round trip to Havana; for you

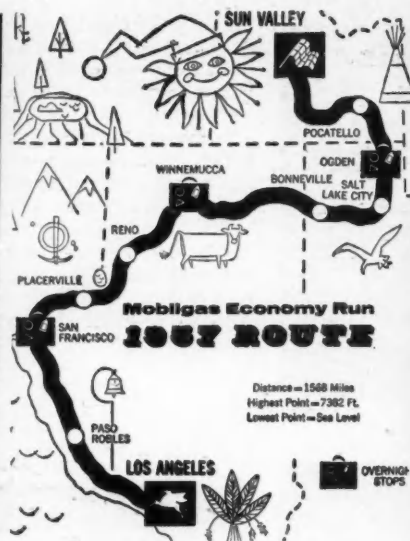
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**FIAT 1100 TV ENGINE**, with its familiar Weber carburetor and ohv layout, is easily accessible, although the standard windshield washer, fresh air intake ducting, oil filter, etc. seem to crowd compartment. A well padded dash displays large side-by-side instrument dials with warning lights for low oil pressure and battery discharge. Passenger seat has grab handle under dash and safety belt. Legroom is unusually ample for a small import. Though basically of 1956 vintage, the Fiat 1100 TV is new to most Americans. Beautifully wrought coachwork by Carrozzeria Vettura and well appointed details should please discriminating tastes.



**PACKAGE SHELF** behind seats is easily reached and could probably be removed for installation of occasional seat for youngsters. Upholstery is plastic, neatly and strongly stitched in lively two-tone, with matching door panels. Carpeting is of thick woolen pile. Cockpit is weather-tight, with heater as optional equipment. Luggage space approximates that of Triumph TR-3; it contains spare tire and battery, which is covered to prevent possible damage to deposited items. Roadability of little TV is excellent. On test-tour it handled smoothly, and powered through sharp curves with pleasurable ease and comfort.



by William Carroll

**H**OUSEWIVES, merchant chief, engineers and an aviatrix were among 24 featherfoots guiding stock cars in the recent 1568-mile Mobilgas Economy Run. The jaunt from Los Angeles to Sun Valley, Ida. proved a point many men would like to ignore—women drivers are here to stay.

Behind this seeming disaster to male ego was General Petroleum's \$250,000 budget which, among other things, bought breakfast for 680 people at the Run's end. Over the clatter of coffee cups were heard the happy victorious laughter of winners and tear-jerking rumors from a few losers. Scuttlebutt tales included the "gimmicked" transmission that would free-wheel (careful tests proved it didn't) and carburetors of fabulous economy.

The beginning came months before, when General Petroleum announced its 1957 Run. Entries received by the sanctioning United States Auto Club (USAC) sent teams of USAC buyers into the field. They entered unwary dealer showrooms "armed" with purchase orders and "stole" brand new cars of the makes and models entered. Security precautions were so successful that not a single entrant saw his (or her) car until after it had been impounded and certified by USAC officials.

Following certification, the cars were lettered, undercoated and lubricated; "Scotchlite" strips were attached to bumpers for night time identification. So rigid was control that when an entrant changed his tires for another make, USAC officials bought new tires for him—with his money.

Each car was permitted about 2000 miles for break-in driving, all of which was obtained with USAC technicians in

the car. Never was a driver or mechanic permitted to work on or move the entered cars unless a USAC "eyeball" was on the job. Finally, days before the run started, the cars were impounded under armed guard and could not be driven even by the Economy Run drivers except for specified final tune-up or emergency repair operations. As A. C. Pillsbury, Chief Steward for the Run said, "We permit no adjustment or improvement not available to the purchaser of a car from his usual garage."

The actual four-day Run was an exhausting ordeal of about 10 hours driving daily at an average of 40 miles an hour. Along the route spotting crews were alert for traffic law violations, while in the cars two impartial observers made a constant log of driver errors.

At a fuel stop the driver gets exactly the gasoline ordered, which is charged against his car. Too much, and excess spills to the ground, costing valuable ton miles. On the other hand, should he order too little, unexpected head winds might absorb the tiny safety margin and an Economy Run car would economize itself right out of the contest.

When it comes down to automotive interest, the most important thing in any Economy Run seems to be the car. So this year MOTOR TREND brings you details for each car entered, from the moment of impound until it finally reached the finish line at Sun Valley.

#### BUICK

Model	Driver	MPG	Place in Class
Roadmaster	Don Bridges	18.6287	2

After certification by USAC officials, Buick mechanics spent nearly six hours on timing and carburetion, followed by

dynamometer tuning, installation of seat belts, and ignition tests. An interesting change was removal and replacement of the original tires with Firestones, which are seven pounds heavier, although of the same size. Later, tires were changed back to the original U. S. Royals. Rear end ratio on the Buick was 3.07 to 1, while ignition advance was set 15 degrees before top dead center.

#### CHEVROLET

Model	Driver	MPG	Place in Class
Bol Air 6	Jim Rush	21.4948	4
Bol Air 8	Vince Piggins	21.2636	3
Bol Air 8	Betty Skelton	20.7236	.....

Three cars entered by Chevrolet were given 500 miles of break-in mileage by cycling the speed up (to 50 mph) and down for short distances. They completed nearly 1800 miles of break-in before engine adjustments were made. At the impound under USAC scrutiny, the carburetors (single four-barrels on the V8s) were dismantled and the first step lean metering rod inserted as permitted by USAC regulations. Float level and choke were left at standard settings. Distributor points were checked and set for maximum coil saturation. Plugs were replaced because of carbon buildup during low speed operation and gapped to .035-inch. Brakes were checked to eliminate drag and some additional accessories installed on the car. Wheels were balanced, chains fitted and the minimum wheel alignment toe-in was set to reduce rolling resistance.

The driver of one car had glazed the brake linings so badly the entire set was replaced. The V8's torque converter housing was re-balanced, a standard Chevrolet operation. Both V8s ran 3.36 to 1 rear



**Want the mileage they  
got from cars in the  
Mobilgas Economy Run?  
Prepare your car like  
they did, drive it  
easy, and you'll get  
more mpg, too.**

ends, one with an ignition advance of 12 degrees, the other with 14 degrees B.T.D.C. The Chevrolet Six used a rear end ratio of 3.36 to 1, running an ignition advance of 15 degrees B.T.D.C.

Midnight starts plus daytime naps just about took little Betty Skelton down the drain. But at the end she was only minutes ahead of a scheduled log, prepared by the male drivers. The Chevrolet logs were rolls of paper about 15 feet long which detailed mileage, altitude, stop signals and check points along each leg of the route. By following this schedule, drivers were sure to take advantage of road conditions.

#### CHRYSLER

Model	Driver	MPG	Place in Class
Saratoga	George Alsbury	20.7032	1

The Chrysler Saratoga entry had unusual difficulties. A door lock wouldn't function and the windshield wipers persisted in operating at the wrong time because of a short in the foot switch. When inspected by USAC officials, the rear axle ratio was found to be 2.92 to 1, which had to be changed to the production standard of 3.18 to 1.

Driver of the car was George Alsbury, who celebrated his 20th birthday during the Run's third day. George drove capably to win his classification, while competing against his mother and older brother (in Imperial Crown sedans) for the Sweepstakes Trophy.

#### DE SOTO

Model	Driver	MPG	Place in Class
Firedome	Hart Fullerton	20.9838	2
Firedome	Myra Buchanan	18.4994	—

Two Firedome Sportsman models carried DeSoto through the Economy Run. In-

itial break-in was by running on mountain roads in second gear (of the automatic transmission) to provide maximum engine rpm; then on level highways up to 70, back to 35 or 40 on compression, with an occasional constant run of 60 miles an hour. Power steering was removed from one car, new spark plugs installed in both, and driveshafts checked for vibrations. They ran with a rear end ratio of 3.36 to 1 and ignition advance of seven degrees B.T.D.C.

Near Sacramento, a USAC observer shouted, "Stop! Stop right now!" DeSoto driver Myra Buchanan became confused at such a definite command, and stopped her car. No sooner had the wheels ceased turning than the observer flew from the car and hid behind a convenient tree. He returned in a minute, jumped into the car and said, "Start your watches; it's okay to go now." The minutes and gasoline lost by this caper were charged to Myra's score, but you can bet that observers on next year's Run better make themselves comfortable before they leave. For Myra is one girl driver who will never stop again.

#### DODGE

Model	Driver	MPG	Place in Class
Coronet 500	William Loshor	22.0047	1
Coronet 500	Patricia Jones	21.7803	—

Each Dodge was serviced, then put on the road for a thousand miles of break-in at a variety of speeds, the fastest being 65 miles an hour on open roads. They were taken to the impound area and plugs set to .035, the distributor inspected and every electrical connection in the car retightened. Old points in the distributor were reset to specifications. No power steering was on either Dodge entry, although power brakes

were added to both. They were originally fitted with 2.92 to 1 rear axles and the engines timed to 15 degrees B.T.D.C.

#### FORD

Model	Driver	MPG	Place in Class
Fairlane 500 8	Mopsy Pagan	18.9456	—
Fairlane 500 6	Ina Mae Overman	22.1201	—
Fairlane 500 6	Marshall Martin	22.2534	2
Fairlane 500 8	Al Cottle	19.1567	6

Fords were run for break-in mileage under 50 miles an hour, with no race-up at any time; then driven at varied speeds from 40 to 65 miles an hour until 1000 miles, following which they were driven normally. Firestone tires were removed from both cars and replaced by Goodyears on one, by Goodrich on the other. Power steering was removed from the car driven by Al Cottle and power seats installed. Pagan's car needed a new air cleaner element, plus seat belts. Both V8s ran 3.10 to 1 rear ends with timing set 13 degrees B.T.D.C. Martin's car, a Six, lost its power seats, but collected accessories bringing weight up to the other Six. A lot of time was spent adjusting the Fordomatic on this car, which was originally not quite right. The other Six also lost its power seats with the major time being spent adjusting valves and working on the carburetor or distributor. The Sixes ran 3.10 to 1 rear ends with the ignition advanced to 11 degrees B.T.D.C.

#### IMPERIAL CROWN

Model	Driver	MPG	Place in Class
Imperial Crown	Mel Alsbury, Jr.	20.9465	1
Imperial Crown	Mildred Alsbury	19.9527	—

The luxury category cars were broken in at 55 and occasionally at 60 mph. At

Continued on page 45

# Mercedes-Benz 300-SL Roadster

"I have never before driven a super-fast car with such high standards of performance . . ."

*Editor's Note: When this report was written there were few 300-SL roadsters in existence. Production started in May, with the first car leaving the line the end of the month. Our German correspondent, Gunther Molter, spent many hours arranging for this test with Daimler-Benz' Research Chief Uhlenhaut. Molter has driven all previous versions of the 300-SL, from the prototype on, so has a good scale by which to measure this model.*

by Gunther Molter



**IT WAS A BEAUTIFUL SPRING DAY** when engineer Wachensberger arrived in an elegant silver-green 300-SL roadster at the start of the Solitude race course near Stuttgart. The Solitude is a typical European road racing course, with all the characteristics needed for a critical test of a fast automobile. In a 6.3-mile lap there are serpentine, fast and sharp turns, flat S-turns, plus some straights.

After one familiarization lap with Mr. Wachensberger at the wheel, I took over. Two laps later I was already impressed with the car's roadholding, comfort, and the feeling of security it has in relation to the 300-SL coupe; the roadster is absolutely beyond criticism. Because of this, you do not get the impression of driving a particularly "hot car."

The clutch pedal is fairly soft and the car takes off much like a passenger car—

in feel only. Its acceleration is totally unlike any passenger car's, since it gets to 75 mph in 9.6 seconds (using first and second gears), and to 100 mph in 16.3 seconds (using first, second, and third). *(The hottest car we've tested here this year was a fuel injection Corvette. It gets from 0 to 60 in 6.4 seconds, and to 95 mph—at the end of a quarter-mile—in 14.9 seconds.—Ed.)* The "elasticity" of the engine is very impressive. I let it lug down in fourth (top) gear to 18 mph, then floored the throttle; it took off without bucking or jerking.

The relation of the bucket seat to the wheel gives you a close connection with the car; you know in advance what it wants to do next. It's astonishing how fast you can become acquainted with this roadster. Driving it at close to its top speed of 140-150 mph around curves, with the tires whistling slightly, there isn't even a faint second in which you feel unsafe.

With the coupe there was some need to "work" the wheel around turns, but with the roadster you steer into the beginning of the curve, then take the rest of it without moving the wheel any more. On a high-speed turn there is no tendency of the car to want to break loose; there is only a very light feeling of over-steer. In case the rear wheels do break away (it will be only slight) you correct by a quick movement of the wheel or by letting off on the gas pedal momentarily. Around any curves, steering is light work. It's soft but direct.

I have never before driven a super-fast car with such a high standard of performance, roadholding, and safety. It can be driven safely at any speed. The balance of the suspension, shock absorbers, steering characteristics, and tires was designed with much care. It gives you an example of what racing experience can accomplish.

The new rear suspension, with its single-joint pendulum axle, low pivot point and additional balance spring, is largely responsible for the better road-holding. The tires used, and with which the car will be equipped in production, were Michelin 6.70x15. (Continental tires are recommended for racing.) The new suspension also gives a somewhat different ride from the coupe. Here's a car with the roadability of a sports car and the driving comfort of a first-class touring car. My experience on a typical German country road bears this out. The road was considerably wavy, but I drove a good deal of it at speeds up to 110 mph. It was very comfortable, with short bumps like you'd experience in a normal car, but not the hard shocks you'd get in a competition car or even the SL coupe.

There is no vibration, and with the top up, you get just the sympathetic roar of the engine, the rushing of the wind, and the whistle of the tires.

There is no question that with such a fast car, you must have excellent brakes. It was a new experience to me to drive a fast car with servo brakes, so I used too much pressure at first. If you tap the pedal just softly, you get soft and effective braking at any speed. I used the brakes hard at high speeds several times, but the car showed no tendency to give unequal braking.

When you have the many thousands of dollars you'll need to buy a 300-SL roadster, you can get it in its present form, or with a hardtop roof (later this year), or in a sports version without bumpers. Whichever one you get, you'll be getting a car that is a credit to its designer. It's a fascinating car for a person who likes something sporty, exclusive and individual—especially in our world of mass production.

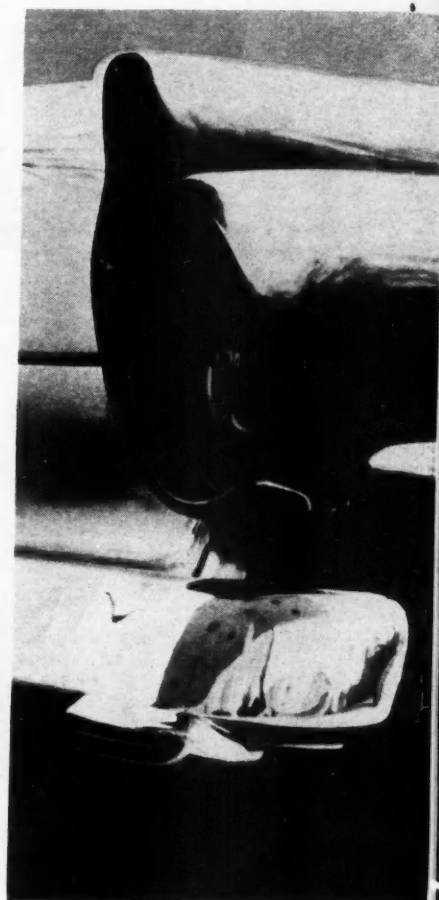
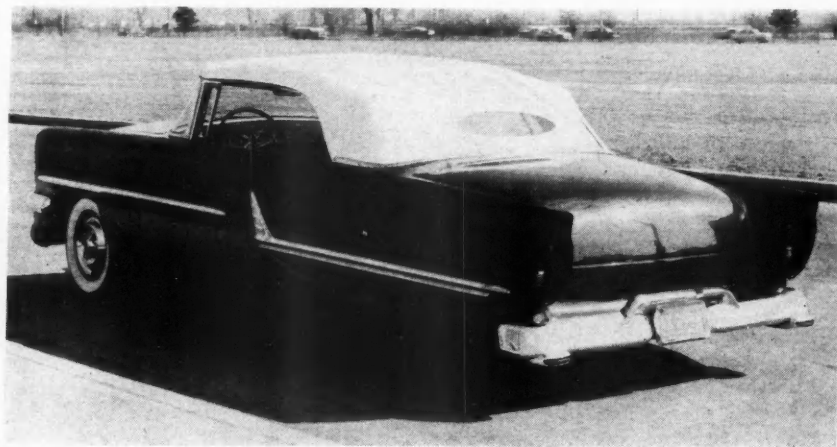


# MODIFIED MERC

COMPANY STYLIST REDESIGNS HIS PERSONAL CAR

... MT's Custom of the Month

Custom CARS  
illustrated



**STRIKING REAR FENDERS**, with huge bubble skirts, distinguish this restyled '55 Merc. Extended 10 inches, fenders form a radical, inverted-keyhole hood over the recessed tail lights. Rear bumper is hand-formed from the original, with cross bar over the remounted license plate

being shaped from end pieces of original bumper guards. Deck is operated by pushbutton under dash. Front end grille guards have been removed and replaced by teeth. Dechromed lower grille bar is finished in Titian red to match body. Spinners are Dodge Lancers.

Story and photos by Bill Provence

**NOT SATISFIED** with the original styling of his 1955 Mercury, Don Bowser of Allen Park, Mich., an engineer at the Ford factory, has come up with some fresh approaches to re-design.

He began his adventure in customizing with minor changes. Lowering was the first step, followed by decking and nosing. Headlights were frenched and grille modified in the next step. Huge bubble skirts, handmade by Jimmy Jones, were then added. But Don was still not completely happy.

He sketched the car again and again, each time seeking a new

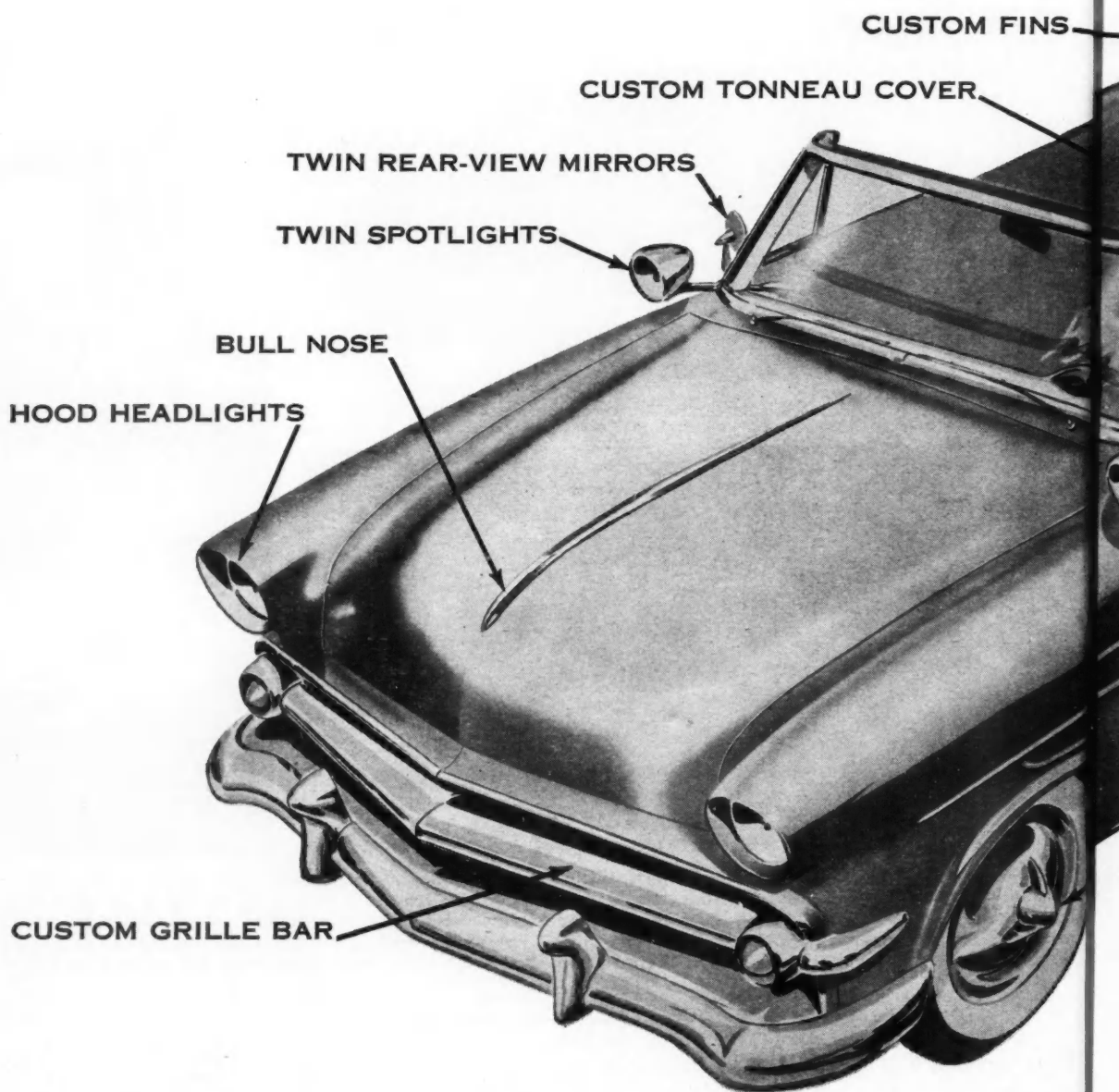
key to a distinctive treatment. At last he decided on the exaggerated rear overhang shown above. The rear fenders were extended some 10 inches at the top edge and swept sharply to the rear bumper.

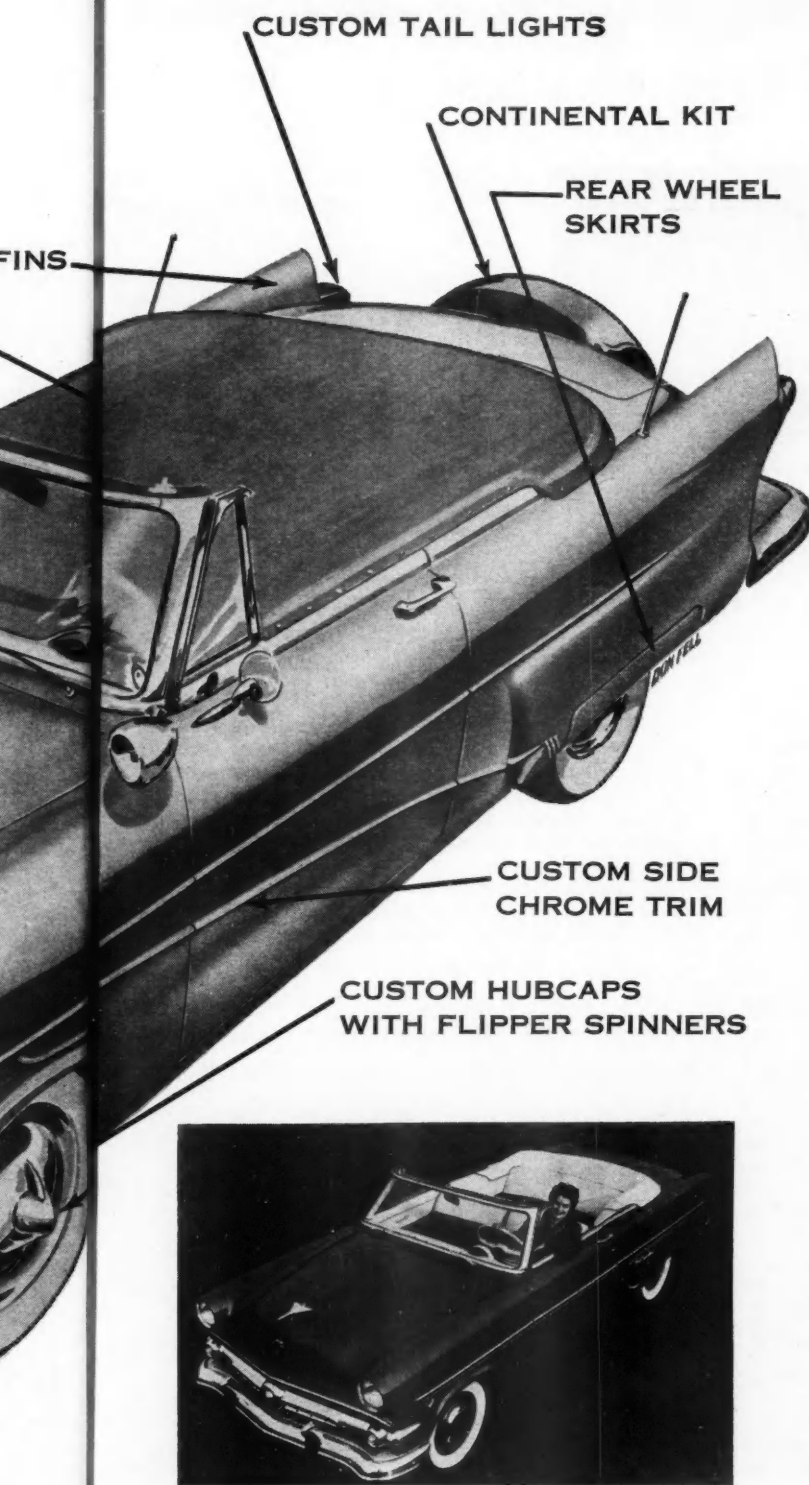
Redesign of the back bumper and repositioning of the fuel tank filler pipe, removal of door handles, and fitting a new top completed the eye-catching job.

Don has recently purchased a '57 Ford and has taken up his sketch pad again—a new customizing gleam in his eye.



# ***CUSTOM CAR CONTEST***





**How would you like to have** an air conditioning system installed complete in your car, free? That's the first prize in MOTOR TREND's new Bolt-On Custom Car Contest. There are many other worthwhile prizes also; but, first, here's what you must do to win any of the prizes.

Submit an 8x10 glossy photograph of your custom car. Tell us briefly of the restyling work that has been done, listing all of the bolt-on customizing parts, telling us where and how they were applied. That's all there is to it. Winners will be judged on the unique adaptation of bolt-ons to their car; radical restyling isn't necessary to win since the emphasis here is not on the amount of metal work done but on the use of bolt-on parts, which of course represent the easiest method of restyling.

In the June issue of MOTOR TREND, we gave you plenty of examples of various types of bolt-on custom equipment that are available from most automotive accessory shops. On the retouched artwork of the Ford convertible on this page, all sorts of goodies that make the car distinctive, yet not garish, are shown. What you have done in adapting custom bolt-on parts, or parts from other cars, may win for you any one of the following prizes, which have been donated by the various firms listed:

## PRIZES

**Clardy Automobile Air Conditioning System**  
CLARDY AUTOMOBILE AIR CONDITIONING CO.  
1728 Layton St., Fort Worth, Texas

**Electric Pushbutton Door Kit**  
**Bull Nose Chrome Trim**  
**Side Chrome Trim Strips**  
NEWHOUSE AUTOMOTIVE  
5805 E. Beverly Blvd., Los Angeles 22, Calif.

**Custom Grille Bar**  
**Set of Wheel Spinners with Flipper Blades**  
EASTERN AUTO SUPPLY  
3319 S. Grand Ave., Los Angeles 7, Calif.

**Dual Radio Aerial Kit**  
**Set of Rear Fender Skirts**  
AUTO DISCOUNT CO.  
1529 Victory Blvd., Glendale, Calif.

**Set of Foam-tufted, Leather-type Seat Covers**  
**Electric Pushbutton Rear Trunk Lid Kit**  
**Thunderbird-type Chrome Airscoop**  
**Dual Rear Seal Radio Speaker**  
J.C. WHITNEY CO.  
1917 Archer Ave., Chicago 16, Ill.

## RULES

1. The contest is open to anyone living within the continental United States (including Alaska and Hawaii) except employees of Petersen Publishing Co., Inc., and their families. No entry fee, registration fee, or subscription is required. Contest is subject to all federal and state regulations.
2. Submit an 8x10 glossy photograph of your car, and on a separate sheet of paper, list all of the bolt-on equipment, describing briefly how and where these parts were applied.
3. Entries will be judged individually on the unique adaptation of the bolt-on equipment. Decision of the judges will be final.
4. Entries must be postmarked not later than August 15, 1957, in order to be eligible.
5. Entries become the property of the Petersen Publishing Co., Inc., which reserves the right to print any entry or part thereof.
6. Address all entries to the Bolt-On Custom Car Contest Editor, MOTOR TREND, 5959 Hollywood Blvd., Los Angeles 28, Calif.

# EL

*New production-line custom is R. Allender's answer to the Eldorado Brougham*



CHEVY BEL AIR body lines serve as basis for Cad-like custom restyling.



**T**HE FACTORY where the new El Morocco is being built on a limited production basis has been visited by your Detroit Editor. Experienced body craftsmen were working like beavers on 18 cars.

Ruby (for Ruben) Allender, a dealer in surplus materials, has been badly infected with the desire to own a distinctive car that would combine a package of reasonable overall size with the features of "the standard of the world" while still retailing at a moderate price.

To accomplish this, Ruby selected the Chevrolet Bel Air with 283-cubic-inch V8 with four-barrel carburetor, radio, heater, and Powerglide, as the base.

Allender is buying showroom new Bel Air models in fair quantity. He is organizing a network of distributors and plans to deliver the cars by the most economical means at hand. In all but the largest cities Allender envisions one dealer only. It is understood they will still be covered by the factory guarantee.

Available at as yet undisclosed prices will be a convertible (white, blue, bronze, or light green), and two- and four-door hardtops. The latter will be finished in Eldorado Brougham colors: dark blue, black, dark green and dark gray on the lower portion with the roofs finished in either silver or aluminum. The final enamel finish, after the extensive custom rebuilding, is put on in a well-equipped spray booth.

When the stock Chevy first enters the factory, it is stripped of all trim, the hood and rear deck are removed, and the trim-mounting holes are filled in. Then the hood is completely smoothed with extra sheet steel, welded in place.

The fender fins are built up of steel (last year, when about 27 models were built, the fins were of Fiberglas) and welded in place. The only original trim that remains on the El Morocco when finished is the chrome fin tip and the headlight bezels. All other trim is special (and expensive) cast or shaped aluminum or steel. All trim items are chromed.

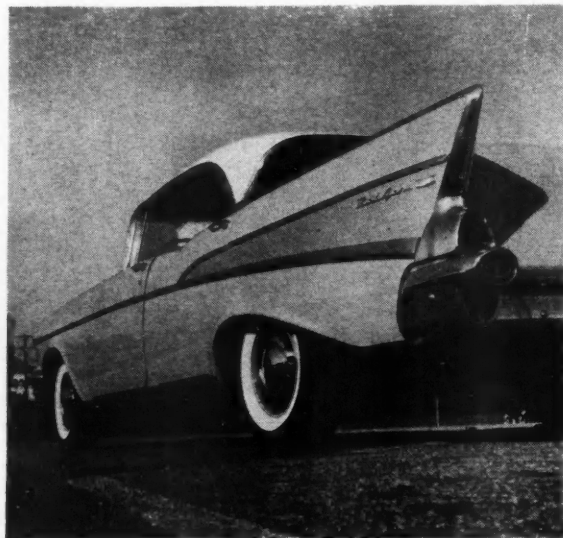
Front bumpers are slightly reworked and the turn signal lights are new. The Eldorado-like latticework grille is aluminum. The generous chrome rear-quarter side panels are dimpled sheet brass, which is chromed. Similar material is used in back at each

side of the license plate recess. The two small lights in each rear chrome panel are dummies.

Of course the cast and chromed hints of airscoops on the lower rear-quarter panels are not functional, but they add to the Eldorado illusion, as do the dual and louvered dummy exhaust outlets below the rear dagmars. Special wheel discs are used.

We have it that 1957 will see well over 100 El Morocco models on the loose. They will be attractively priced just a bit over what one would have to pay for a completely stock and

CHEVY SPEAR TRIM and taillight assembly are replaced.



# L MOROCCO

ham

Story and photos by Joseph H. Wherry

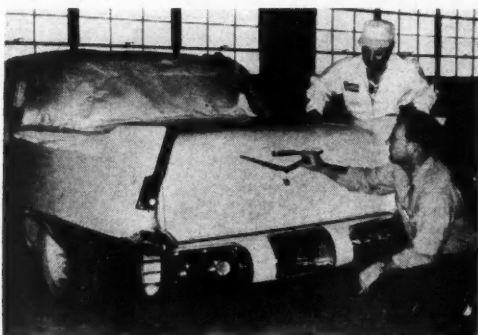


**EL MOROCCO** convincingly disguises its Chevy ancestry.



**FRONT** has new grille, reworked bumper.

**REAR END** has recessed license, dummy lights.



comparable Chevy Bel Air, putting it within everyone's reach.

On the "personal" side, the steering wheel hub of each El Morocco is fitted with a piece of leather with the following imprinted in gold gilt: "El Morocco Custom Built for ....."

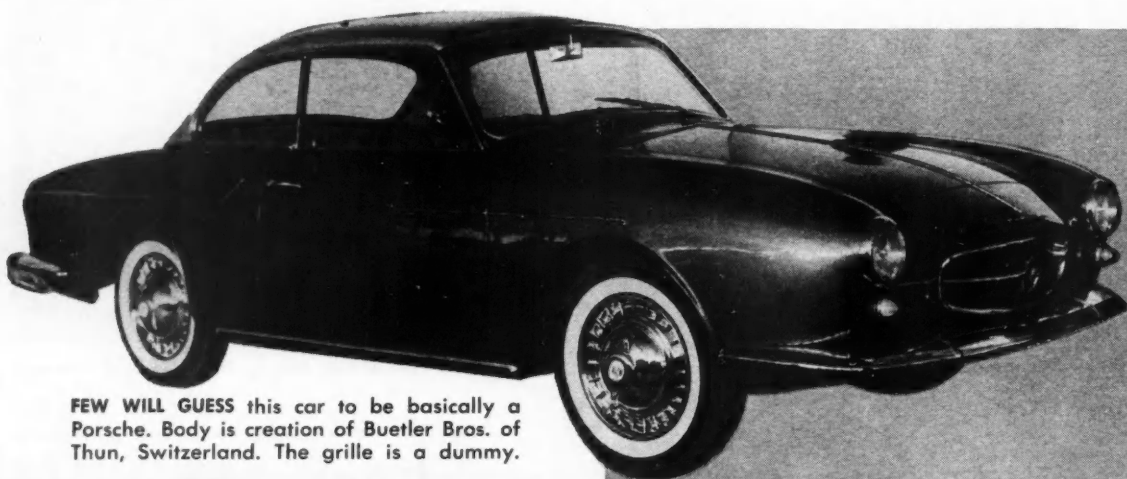
It's a nice package and one which may very well ignite the old urge for distinction which once enabled many a limited production shop to flourish. Incidentally, Allender is toying with the idea of *not* changing models each year — rather he's thinking about making the El Morocco a changeless prestige item without annual facelifts. Sounds like a good idea!

**LARGE FINS**, chrome panels add to Brougham illusion.

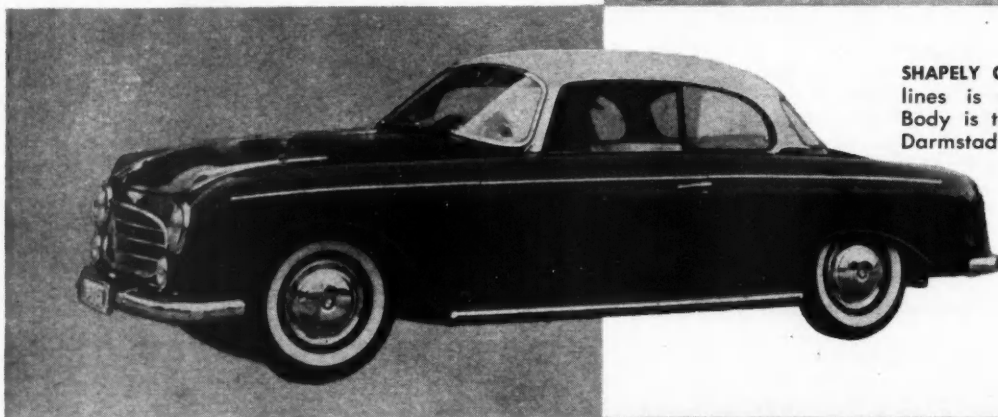




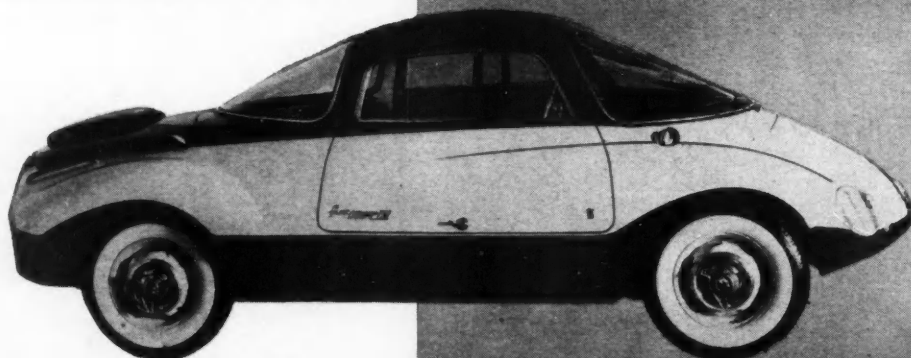
# Custom Coachwork



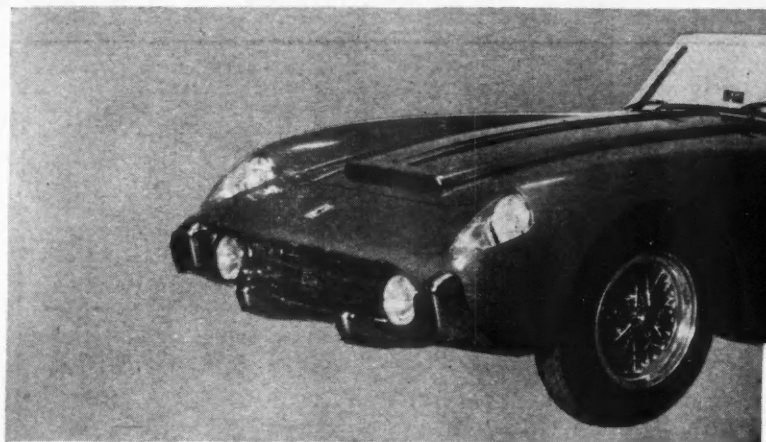
FEW WILL GUESS this car to be basically a Porsche. Body is creation of Buetler Bros. of Thun, Switzerland. The grille is a dummy.



SHAPELY COUPE with clean lines is this V8 B.M.W. Body is the production of Darmstadt of Autenreith.



SMALL, REAR-ENGINE sports coupe by Giovanni Michelotti has Vignale-built body on Abarth-Fiat chassis.



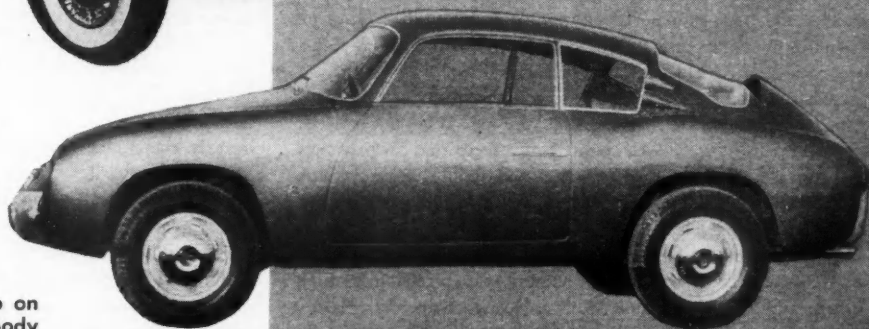
SPYDER FERRARI 3000 Gran Turismo is dressed by Pinin Farina. Body has striking cut-away line. Front end is not designed for parking bashing.

**Here are some new slants on  
styling from adventuresome  
European designers**



UNUSUAL vacation or beach car by Giovanni Michelotti, young Italian stylist, features body construction by Vignale on Fiat Multipla chassis.

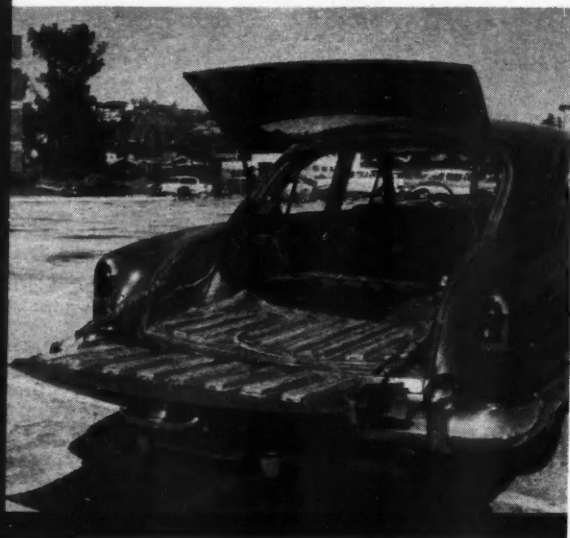
PHOTOS BY GORDON WILKINS



THIS COACHWORK is by Zagato on an Abarth-Fiat 750cc chassis. Body lines assist in obtaining 93 mph.

MOTOR TREND starts its new  
and exciting project  
of building a special car.  
Our aim—an...

## All-Purpose Car



PHOTOS BY D'OLIVO

**WE'RE OFTEN ASKED** a question to which it's almost impossible to give a simple answer.

"What's your favorite car?" the question always starts, "... the car you'd like to drive day in and day out?"

We do have our favorite car—*cars*, we should say—chosen for particular types of driving or for special features. We'll prefer the lines of one, the power of another, the riding or handling qualities of a third, etc. No one existing model seems to possess *all* the characteristics of an ideal car.

The next best thing would be to combine many of these cars' various features into one. Impossible, you say? Well, not entirely.

Why not start with a basic body shell that incorporates as many good features as possible, and build from there? A Kaiser Traveler (*see above photos*) should be a good start: the '51 and later models had basically clean lines that were reckoned by many to be the best of their time. The rear seat folded forward to give 105.5 cubic feet of hauling space accessible through the rear wagon-like doors. With a later model engine, stiffer springing, a sliding roof, reclining seats, hmmm... we might very well have a true all-purpose car! The idea excited us so that we decided to try it.

The first thing to do was to find a Kaiser that hadn't been

involved in a wreck, and that hadn't been allowed to rust out. This wasn't easy, but finally a '51 was located in San Diego. The price was right, so ownership was transferred and the car was driven home.

Right now it's in the hands of Dick Lyon of Lyon Engineering at 11370 Long Beach Blvd., Lynwood, Calif. He's preparing to replace the six-cylinder Continental engine with a brand spanking-new '57 DeSoto Fireflite engine rated at 295 horsepower with its four-barrel carburetor. Dick will run into some strain fitting this 341-cubic-inch engine into the Kaiser because of its size, but he anticipates that we'll be able to give you the complete story on the engine installation in the next issue.

After that, we'll work on the transmission, drive line, rear axle, get into the suspension, brakes, wheels, and on and on.

It'll take time to complete the MOTOR TREND All-Purpose Car, and so we'll have to tell you about it in the form of a serial with monthly progress reports. Where the changes (such as this engine swap) affect performance, or affect the ride or handling, we'll give you those facts, too.

And who knows, maybe we'll start a run on Kaiser Travelers. We suggest that you Kaiser owners don't let your Travelers travel too far from you.







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*From Bennett-Chaikin Survey, 1956.*



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# OPERATION ECONOMY

continued from page 33

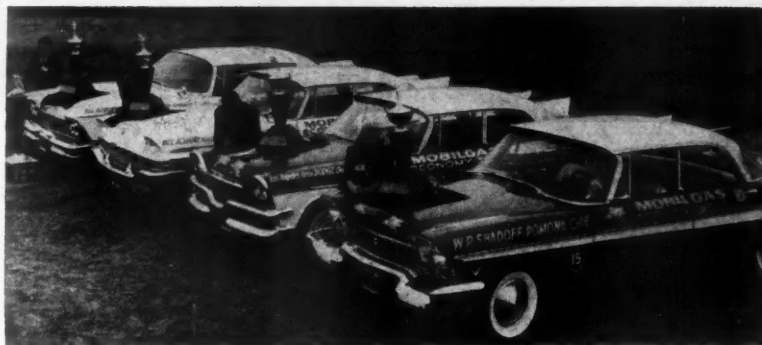
about 700 miles the oil was changed, ignition advanced about three degrees and wheel balance checked. On a second test run the cars were driven as fast as 85 miles an hour, but at no time were high speeds maintained for more than three minutes. In the impound garage, carburetors were adjusted and float bowl levels lowered to the minimum factory tolerance. A new battery, new spark plugs and a replacement power steering pump were put in one Imperial. The other car received a new power steering pump, new spark plugs, neutral switch and necessary repair to one door latch. Imperials ran a gear ratio of 2.92 to 1 with timing of the winning car set at 10.5 degrees B.T.D.C. and the other at 11 degrees B.T.D.C.

## OLDSMOBILE

Model	Driver	MPG	Place in Class
Holiday 88	Lorraine Bell	19.5149	2
Holiday 88	Lincoln Paola	....	Withdrawn
Holiday 98	Ray Brock	18.7247	....
Holiday 98	Marilyn Miller	19.2164	3

The two 88s with J-2 three-carburetor engines were given pre-delivery service and rear ends were checked to make sure they were factory stock. The metering rod in the carburetors was adjusted one point lean as permitted by USAC regulations and timing set to 7.5 degrees B.T.D.C. The cars started off on their first break-in mileage at full throttle up to 60 miles an hour then slowed under compression to 40 or 45, which sucks oil past the control rings and prevents cylinder scuffing. After about 600 miles, the cars were driven to Nevada where it is legal to run over 100 miles an hour. Some out-of-balance tires were changed for new ones. After 1800 miles the old plugs were cleaned and regapped. Tests had shown gas mileage of the three-carburetor engine was as good at 45 as at 30, and only 0.2 of a gallon more at 60 mph. The two 88s were running 3.08 to 1 rear ends.

The other two Oldsmobiles were 98 Starfire hardtops. They were given a preliminary check, timing was advanced slightly and the single four-throat carburetors left alone. Initial break-in included mountain driving in third gear to keep engines warmed during a fast break-in. After 300 or 400 miles of running, the cars were taken to Nevada to fly at 100 miles an hour or better. After 1800 miles the 98s were given a final tune-up which included lowering the float level to specifications, setting jets and auto choke one step lean. Both distributors were checked and one was found to need an advance spring shortened and the sticking advance mechanism degummed. Old points were set at the high limit of dwell. New plugs were installed and set to .030, while U. S.



**WINNING CARS AND THEIR DRIVERS IN THE 1957 MOBILGAS ECONOMY RUN Sweepstakes-Luxury Class—Imperial Crown, 64.5153 ton mpg, Mel Alsbury, driver, 20.9465 mpg; Upper-Med. Class—Chrysler Saratoga, 56.7267 ton mpg, George Alsbury, driver, 20.7032 mpg; Low-Med. Class—Dodge Coronet "500," 55.8920 ton mpg, William Losher, driver, 22.0047 mpg; Low Price Class—Plymouth Belvedere V8, 52.6211 ton mpg, Mary Davis, driver, 21.3907 mpg.**

Royal tires were removed and replaced with Firestones. Marilyn Miller's car was bought with the wrong differential ratio, so another new car was picked by USAC and rear ends swapped.

## PLYMOUTH

Model	Driver	MPG	Place in Class
Belvedere 8	Mary Davis	21.3907	1
Belvedere 8	Richard Griffith	20.8968	....

Winner in the low-priced field was a girl-driven Plymouth. Her car was carefully broken in for 200 miles. From then until impounded with over 1600 miles on the speedometer, the cars were driven faster; but the Plymouth crew chief would not say at what speeds. Both Plymouths lost their 2.93 optional rear end ratio, which was replaced with a 3.18 to 1 standard ratio. One Plymouth ran an engine set 12 degrees B.T.D.C.; the other performed with an 11-degree advance.

To hear other drivers talk, Mary Davis' downhill driving was nothing short of spectacular. Not only was she out to win, but her co-driver kept saying, "Don't touch that brake, just keep it rolling."

## PONTIAC

Model	Driver	MPG	Place in Class
Chieftain	Pierce Venable	20.4221	3

For the first 200 miles driver Pierce Venable did not cruise his Pontiac over 50 miles an hour in fourth gear. Then he cycled from five to 65 mph, running the transmission in third. At 995 miles it was taken in for a complete tune-up. Both distributor and plugs were checked and the choke set one notch lean. New plugs were installed and gapped to .038. The Pontiac ran a 3.08 differential with ignition set seven degrees B.T.D.C.

## RAMBLER REBEL

Model	Driver	MPG	Place in Class
Rambler Rebel 8	Les Villand	21.6214	5

Even factory officials at Kenosha were surprised when USAC representatives

walked in and "borrowed" a car for the Mobilgas Economy Run. Driver Les Villand, in California on vacation, wasn't told when the car would arrive or even if it would arrive. As Les said, "Boy, you can sure see how far USAC goes to make sure the cars are stock."

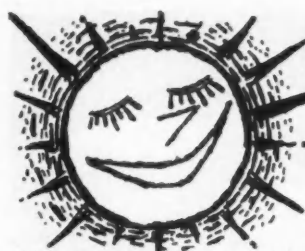
Advised of the arrival of his car, Les drove it for the break-in mileage at about 40 miles an hour for the first hundred miles, cycling up and down the speed range. He then cycled for a maximum of 50 miles an hour until hitting 400, a maximum of 60 until reaching 500, 70 until 600, and 80 until he reached 700. His maximum speed was bursts to 125 miles an hour where permitted in Nevada.

After 1800 miles of break-in the Rambler was tuned at the impound area. Carburetor float level was changed  $\frac{1}{4}$  inch, the distributor cleaned and original points reset. Wheels were balanced, brakes adjusted and the rear axle ratio inspected by removing the inspection plate and counting the teeth. The rear end ratio was 3.15 to 1 and with an initial ignition advance of 10 degrees B.T.D.C.

## STUDEBAKER

Model	Driver	MPG	Place in Class
President	Pete Novotny	19.9453	4

A President four door with V8 engine and power steering was broken in at 65 to 75 miles an hour. What speed cycling was done occurred naturally going downhill. After this first trip valve clearances were set, timing adjusted and carburetor float level lowered slightly. Metering rods were changed one step lean as permitted by USAC regulations. Later runs were made at normal speeds of 70 to 75 miles an hour, breaking the car in as rapidly as possible. USAC inspectors notified Pete of a change in rear axle ratios. So the 3.07 rear end was removed and 3.31 gears installed. Timing was set nine degrees B.T.D.C. with original plugs and breaker points left in place.

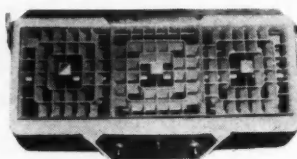


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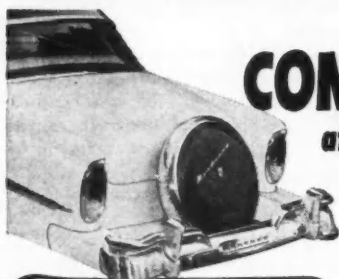


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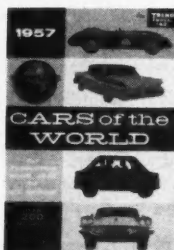
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## '57 NASH

continued from page 23

nothing beats a reclining seat for watching drive-in movies. And the seats are included in the price of the car!

**THE CAR'S RIDING QUALITIES** themselves are impressive. Rough road surfaces are smoothed out; road noises and vibrations are cancelled. Quiet, smooth, it provides solid touring comfort for passengers and driver alike.

Handling is good, but could stand improvement, lean being excessive in fast turns, and noticeable even at lower speeds in more gentle turns. Recovery is quick enough, however, and the car feels safe at speeds even above the limit. It's pretty hard to bottom even through bad dips, at least with passengers in the front only, but it will get slightly airborne and wallow a bit. Some corrective action on straight roads is necessary, but only at high speeds. The chart details performance and gas mileage results. This is not a road racer, certainly, but it does qualify nicely for normal usage, family sedan class.

**ALL EQUIPMENT WORKED WELL**, although A. M. is not trying to corner the carriage trade with well-oiled, prettied-up functionals disguised as gimmicks, or vice versa. The air-conditioning unit, with vents emitting from both sides of the instrument panel, is one of the best we've used so far, and the heat and vent controls provide excellent air circulation without draft.

**THE V8 ENGINE**, available with Hydra-Matic, standard transmission, or standard with overdrive, has been upped to 255 hp, an increase of 35 over last year's largest offering. Containing 327 cubic inches, the engine employs a four-barrel carburetor and has a compression ratio of 9 to 1. It's very silent except for the fan, which becomes quite noisy in lower gears, when the engine revs high. Components are easily accessible.

**EASY TO GET IN** and out of, extremely roomy inside, having good visibility with little windshield distortion, reclining seats, soft springing and that solidly resistant body... the Nash is definitely built to make its users happy, particularly since its price shows a reduction from 1956. It is not, as we have said, the most fashionable or handsome car on the road; and it does have certain faults. Some are easily corrected, such as having the brake pedal too far right for left foot usage, and some are more serious, such as the aforementioned "lean" and "wallow." However, the compensating factors of superior body construction, generous interior proportions, reliable engine and plenitude of minor convenience make the Nash a car well worth its price.

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NO automobile air conditioner is inexpensive. Therefore, to be economical, the unit you buy should be as good as new for years and years. That is economy. And that is the kind of quality you get when you buy an A.R.A.

A lot of other units are *cheaper*. Not less expensive, mind, but *cheaper*. That is *not* economy. A cheap unit will cost you money in repairs the longer you keep it. Buy wisely. Insist on quality, guarantee of service, and solid warranty. Your best choice is an A.R.A. for care-free driving pleasure.

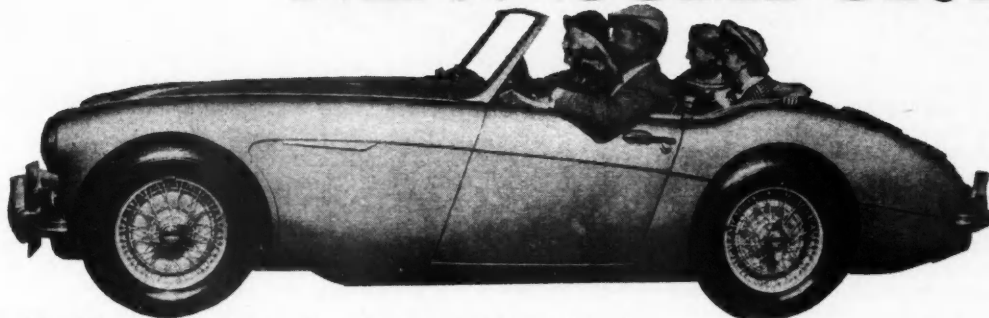
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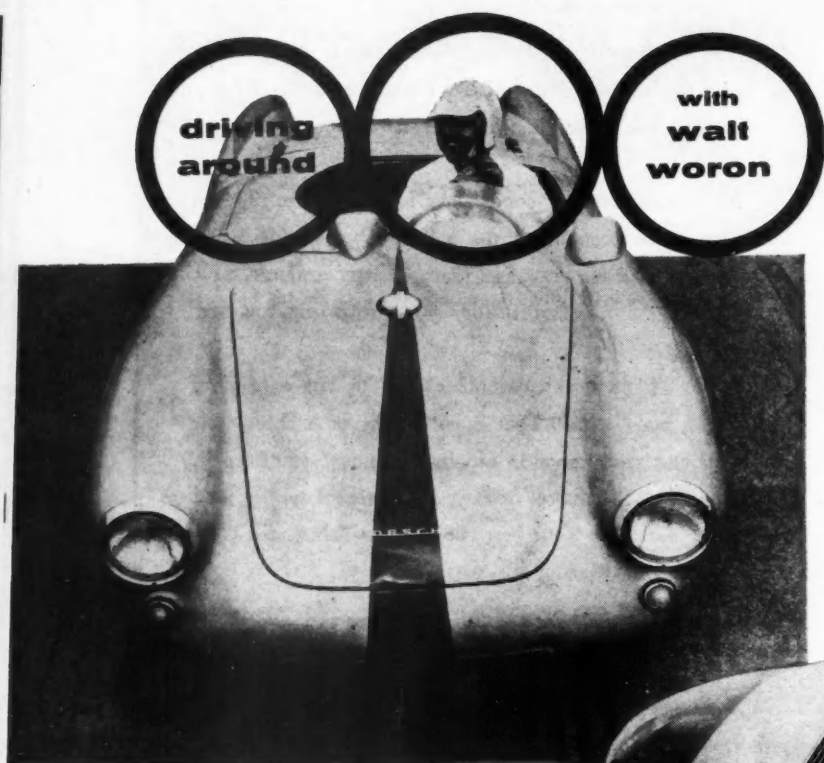
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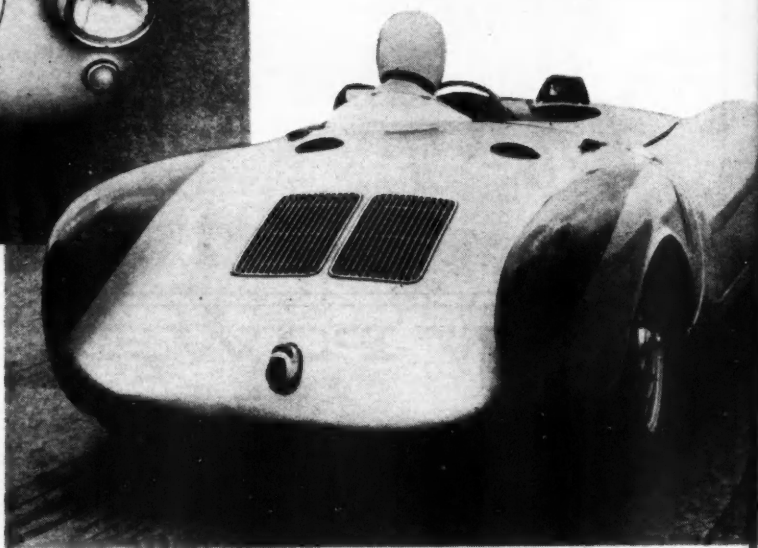
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# PORSCHE SPYDER



**WITH SOME DRIVERS** the more compliant a car the better. Others want to manhandle the machine to prove their own superiority. The Porsche Spyder allows you to express both traits: it's docile, yet takes to being slammed around. As Otto Zipper said when he all-too-briefly loaned the car to me, "Drive it through a turn hard. If it breaks, keep your foot in it. It'll come out . . ."

The Spyder has an altogether different feel from all of the bigger cars I've driven—including the "larger" sports cars. It's light, weighing in at only a bit over 1500 pounds, and goes like the proverbial bomb, so you have to really get used to it before you feel secure.

Actually, the Spyder that I drove was not a true Spyder in that it's a '55 model and uses a de-tuned Spyder engine with compression ratio and carburetors of a Carrera engine. Therefore, performance figures obtained on this particular car should be upgraded by a few per cent. What it did is still pretty phenomenal for a 91-cubic-inch, four-cylinder engine.

This was my first time in the glove-tight cockpit behind the tiny wheel of a Spyder and I frankly couldn't get off the mark the way I'm sure I could with much more practice. Before I took over from Otto, he advised, "Don't pump the throttle. Just 'wuk wuk,' then get on it." If you don't have the engine rpm up high, it eases away from a standstill with no screeching of rubber or loss of traction. This wasn't the way to get the best times, though. It's better to use a "wheelspin takeoff" by easing out the clutch pedal at 4000 rpm to keep the revs up when the clutch grabs hold.

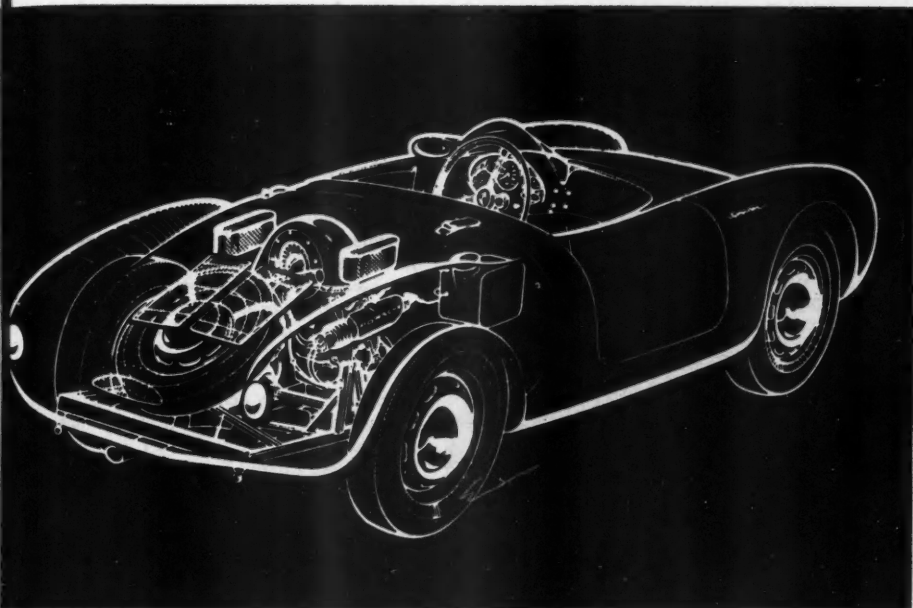
After four runs I got the elapsed time for the quarter mile down to 15.9 seconds. I was sure the car would do better than that, so I gave the wheel back to Otto. His greater experience with the car enabled him to get it down to 15.4, which seemed more like what it should do. The speed at the end of the quarter was around 110 mph. On the good runs, the de-cambered rear wheels both bit into the asphalt of the San Fernando Dragstrip, laying rubber for a good number of feet. Incidentally, the de-cambering is peculiar to this car, and gave it better handling characteristics on the short and twisty Paramount Ranch road course.

You shift at the redline marker, which is an unusually high (in stock circles) 7200 rpm. Luckily the tach is large, for the engine revs come up so fast that it's mighty easy to over-rev. Best shift points seemed to be right at 7000; higher than that and you could hear and feel the hot plugs giving out.

Low-end performance is always an added bonus in a high-revving and high-output machine. Yet, here's this Spyder, strictly a race car, that lugs way down in fourth gear, able to accelerate with nary a buck or a jerk from a walking pace. Put a muffler on (oh, the looks I got from the cops!), a one-piece windshield to replace the racing screen, adapt a Fiberglass

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# PORSCHE SPYDER SPECIFICATIONS AND PERFORMANCE

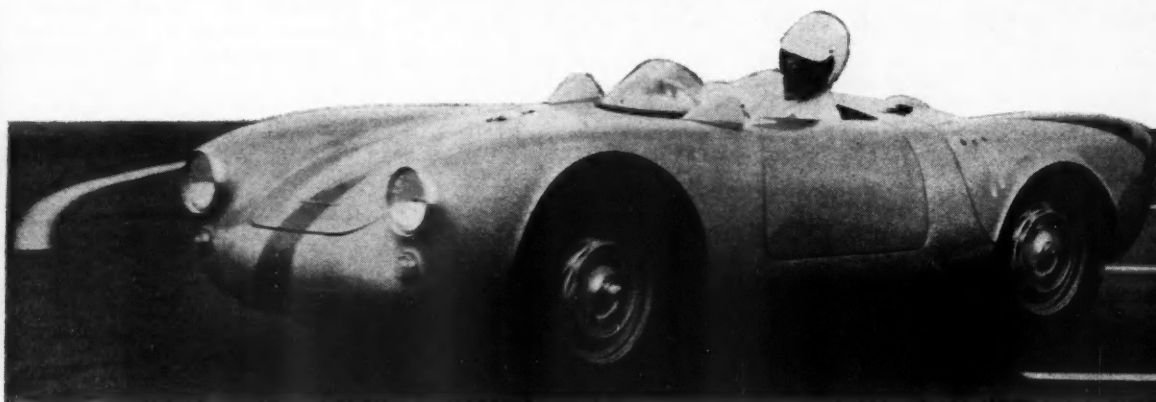
ENGINE: Flat 4 with 4 overhead camshafts. Dry sump lubrication. Bore 3.35 in. Stroke 2.60 in. Stroke/bore ratio 0.77:1. Compression ratio 9.5:1. Displacement 91 cu. in. Advertised bhp 110 @ 6200 rpm. Bhp per cu. in. 1.21.

TRANSMISSION: Four forward speeds, fully synchronized. Overall ratios 14:1, 7.82:1, 5.43:1, 4.25:1. Dry plate clutch. Rear axle ratio 4.425:1.

CHASSIS: Unit body construction. Two front independent parallel arms with 2 torsion bars. Rear, oscillating half axles independently sprung on individual torsion bars. Double-acting shocks. 5.00, 5.25 x 16 racing tires. Hydraulic brakes. Worm and sector steering gear, with 33-ft. turning circle, 2.3 turns lock-to-lock.

DIMENSIONS: Wheelbase 83 in., overall length 141.9 in., overall height 40 in., minimum clearance 6.2 in., weight dry 1507 lbs., weight/bhp ratio 13.7:1.

PERFORMANCE: Max. speed 140 mph. Standing 1/4-mile average 15.4 secs., 110 mph.



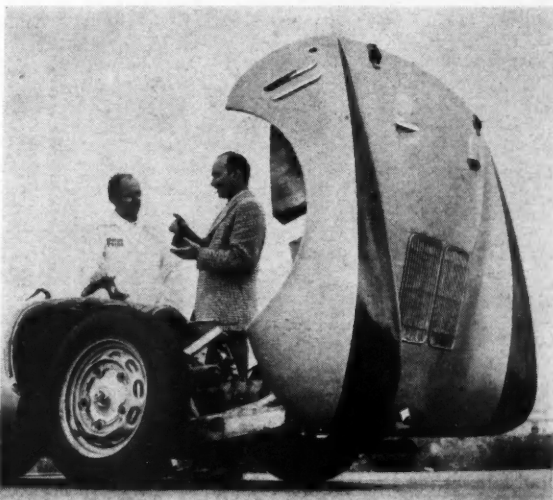
top, and you've got a street machine that would enrapture anyone.

It's not the most comfortable car in the world to ride in. You feel every bump and tarstrip in the road through the thin and light bucket seats. But, once accustomed to that, it's not bad. And just wait until you find that winding country lane! Here's where a smile will cross your face, not to be erased for days after. And I thought a stock Porsche could handle!

There's as much difference between the convertible I told you about last month and this Spyder as there is between a glass of milk and a bottle of Pabst. It's so light steering (even at a standstill) that you'd swear it was power-equipped. It's quick, responsive, and any other handling superlative you want to label it with. Break it loose, you whip the wheel into the direction of the slide, keeping your foot in it or quickly shifting the four-speed synchro-mesh gearbox into a lower gear—and you're out of trouble.

After a while, you find yourself *deliberately* trying to get into a slide. A four-wheel drift through a corner comes so easy in this car that you soon visualize yourself on the great road courses of the country showing Kunstle and Miles the way home.

Where do you go from here? There *are* better cars to come? Show me to them—fast!



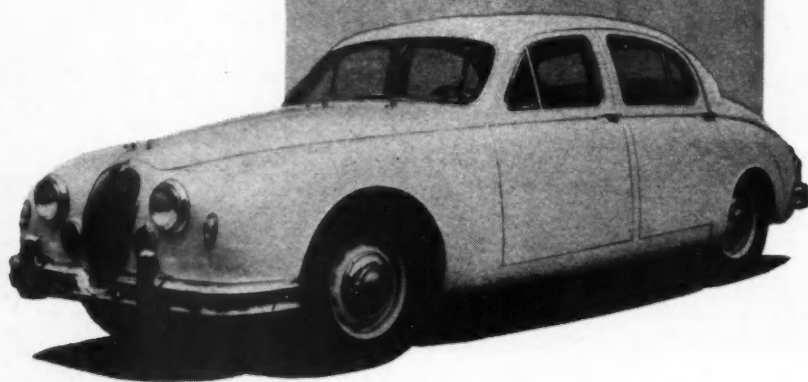
PHOTOS BY BOB B. OLIVO

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# Jaguar 3.4



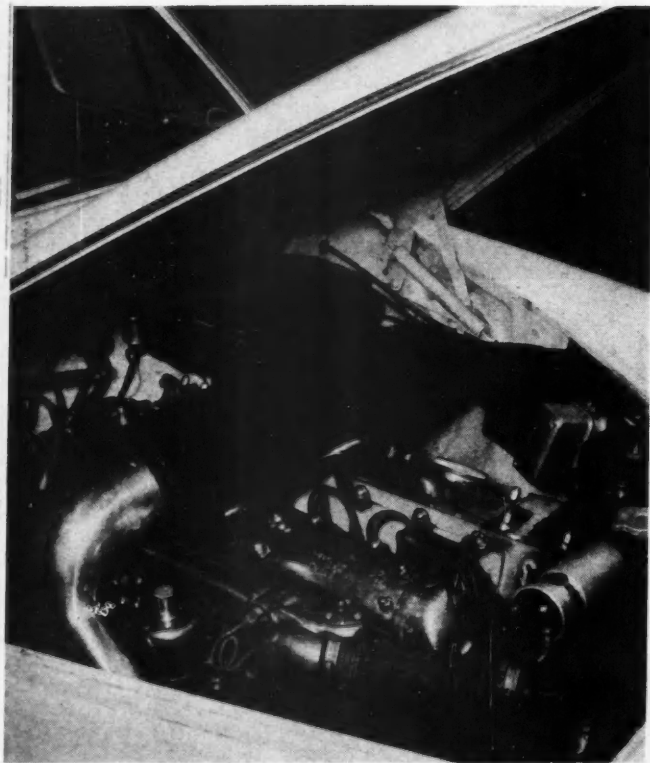
## TESTING A SPORTS SEDAN WITH A HAPPY COMPROMISE

AN MT RESEARCH REPORT by Otto Zipper

**THE 3.4 JAGUAR** four-door sedan is a welcome import. It blends the luxuries and spaciousness of a full sedan with a real sports car feeling. This happy combination is not exactly new, but price-wise and performance-wise it's about the nearest thing extant to what a true sports sedan should be.

The 3.4 (an appropriate name since it's powered by the 3.4-liter XK engine) is externally identical to the 2.4 Jaguar introduced to the U.S. last year. But the one-liter (61 cubic inches) increase in the engine makes a vast difference in its appeal to the U.S. buyer. Not that it seriously challenges, in actual size or horsepower, the newer domestic products, but its performance is definitely pleasing, and our advice to "hot" car owners who have previously dusted off the 2.4 is—look before you tromp. The 3.4 can give a number of domestic '57 products a very bad time. Actual times show 0 to 60 mph in 10.7 seconds and the standing ¼-mile in 17.7 seconds at 78 mph. That's quite commendable for a relatively small engine of 210 cubic inches pulling a four-door sedan weighing 3280 pounds. Top speed is well over 110 mph.

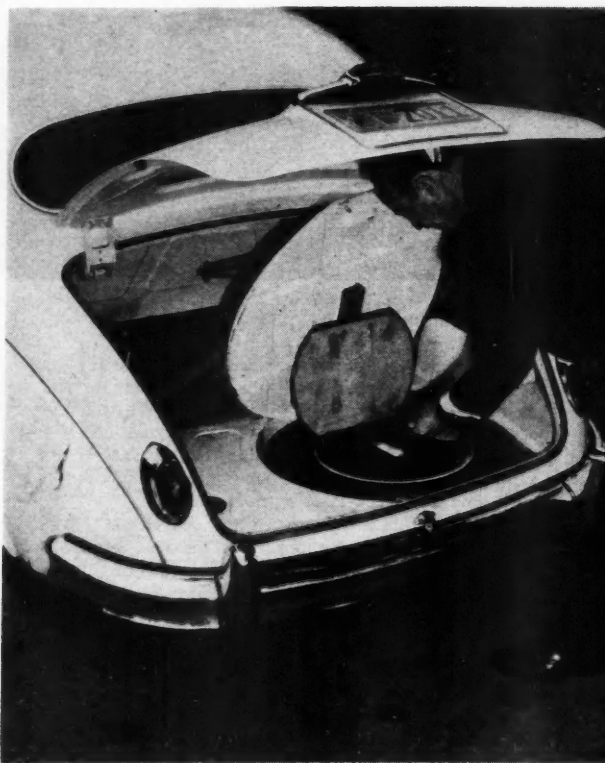
The double overhead cam, six-cylinder engine, proven over many years, has been so successfully refined that it is remarkably



**THE ADDITION** of 61 cubic inches is evident here, the 3.4 engine completely filling underhood space. Double overhead cam 6 gives over 110 mph speed.

30 MOTOR TREND/JULY 1957

PHOTOS BY BOB D'OLIVO



**A DELUXE TOUCH** is added with this easily accessible tool kit, built into center of spare tire. This well-designed feature allows full use of trunk compartment for luggage.

AM  
Jag  
to l



smooth and quiet. It's the same engine as used in the Mark VIII, but has an 8 to 1 compression ratio, which ups the power to 210 hp at 5500 rpm. Minor cam and port modifications have raised the torque in the 3.4 engine to 216 pounds-feet from the Mark VIII's 203. This increase is felt mostly in the low speed range, resulting in very pliable high gear driving. Even with the overdrive engaged, flexibility is good from 40 mph up. The optional Laycock-de Normanville overdrive operates only in fourth gear, with engagement being made simply by flipping a toggle switch conveniently located on the dash a finger's length away from your left hand on the steering wheel.

Normal shifting of the floor-mounted gearshift is pleasant, except for one point that could stand improvement — the lever needs a more positive stop for the entrance into the reverse gate. Shifting up is no problem, but a down-shift from third to second might find you in reverse gate instead.

An automatic Borg-Warner torque converter transmission is available on the 3.4 for an additional \$250 over the f.o.b. Los Angeles price of \$4445. A bench type front seat is standard installation with the automatic shift. Actually, about everything

continued on page 52



**COCKPIT VIEW** shows convenient, uncluttered instrument panel set in center of dashboard, tachometer on left, speedometer on right.

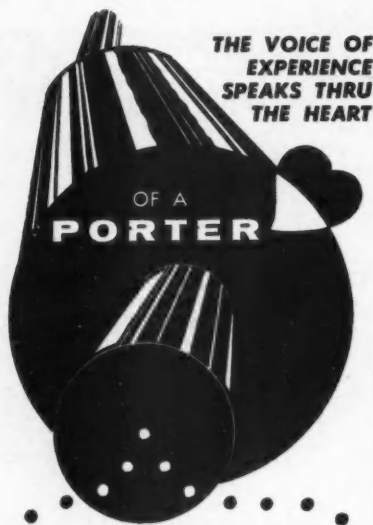


**AMPLE ROOM** is provided for all occupants, despite the Jaguar's small dimensions. The driver does not have to be a contortionist to get in or out of it gracefully.



**LONG-LEGGED** rear passengers may wish for a little more room, but the leather covered foam rubber seats are most comfortable. Arm rests are on all four doors.





Why replace your muffler every six months? Install PORTER's and be assured of long-lasting service. ALL PORTER Mufflers must stand a road test of 30,000 miles (within a year) before being offered to the public. The PORTER name has signified the finest in quality exhaust systems since 1937.

DEALERS: PORTER Mufflers are treated against rust and are individually cartoned before shipping from factory.

ORDER TODAY, or write to Porter Muffler Manufacturing Company, Dept. MT-7, for the name of your nearest dealer.



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# Jaguar 3.4

continued from preceding page

found on the car is standard. At the base price the following "accessories" are included: overdrive, heater, defrosters, dual exhausts, directional signals, and power brakes.

The car has, as a matter of fact, a large number of desirable features. Take the dimensions, for instance. It's an inch shorter than a Thunderbird, has an inch less wheelbase than a Rambler, is only four inches wider than a Metropolitan, stands only as high as the new Chrysler line, yet amply accommodates five persons and has 13.5 cubic feet of luggage space. Vision is splendid in all directions. You can safely pass on narrow streets or park at an angle to the curb without having your derriere jut too far into the street. You can even parallel park in one space! And a U-turn is easy on the narrowest of streets.

Workmanship, as could be expected, is superb. The polished walnut of the instrument panel and window framings is beautiful. One should take care, however, to keep the wood conditioned to prevent cracking. The glove leather upholstery and heavy floor carpeting are in conservatively excellent taste, and the detailing shows the imprint of fine craftsmen. Map pockets and arm rests are in all four doors and there are two glove compartments, the driver's being doorless. Windows and doors are so well fitted there are no rattles or wind noise.

The instrument panel is located dead center, rev counter being left, speedometer, right. Jaguar Cars Ltd. shows proper concern for the limitations of their engine, but the driver will have to do some neck stretching to be sure he's conforming to the speed limits.

The seating position is very comfortable, contained and an asset to driving efficiency. It hardly seems to matter what size or shape you may be; the leather covered, foam rubber seats almost mold themselves to you.

As might be deduced from our opening

paragraph, handling comes close to that of a sports car. While it is true that lean is apparent in sharp turns at speed, accompanied by tire squeal, the 3.4 still very definitely shows its sports heritage. It must be remembered that a comfortably riding four-door sedan cannot handle as well as an all-out sports car. The steering is precise, fairly quick, and needs no correcting action at speed. If the wheel is whipped from side to side, recovery is instantaneous. The ride itself is soft but firm and extremely comfortable.

There are many would-be sports car drivers who, for personal or business reasons, cannot own an out-and-out sports car. The Jaguar 3.4 should become a happy solution. Wives or customers who might balk at a two-seater, close-fitting roadster will in all likelihood comment favorably on the Jag. It has the satisfying performance and handling characteristics of the real article, yet it also has four doors, ample head, leg and luggage space. It's perfectly easy to get in and out of and should be impressive enough for anyone.

## Specifications

**ENGINE:** Double overhead cam 6. Bore 3.27 in. Stroke 4.17 in. Stroke/bore ratio 1.28:1. Compression ratio 8:1. Displacement 210 cu. in. Advertised bhp 210 @ 5500 rpm. Bhp per cu. in. 1.0. Piston speed @ max. bhp 3830 ft. per min.

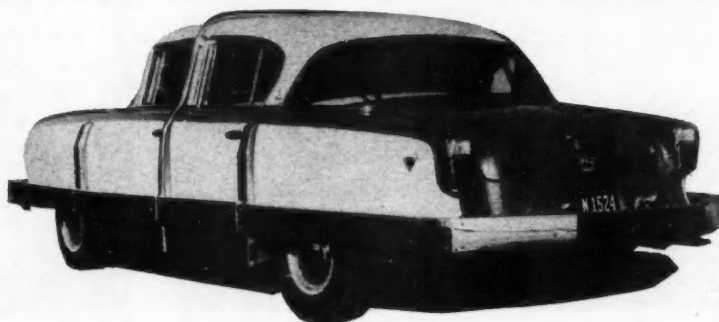
**TRANSMISSION:** 4 forward speeds, all synchronized. Overall ratios: 11.2, 6.56, 4.55, 3.77. Rear axle ratio 3.77:1. 10-inch dry plate clutch Borg-Warner automatic transmission. Rear axle ratio 3.54:1.

**CHASSIS:** Integral body chassis construction. Independent front suspension with semi-trailing wishbones, coil springs, tube shocks. Trailing link rear suspension by semi-elliptic rear springs, tube shocks. 6.40 x 15 tires. Servo-assist hydraulic brakes. Ball-type steering gear, with 33.5-ft. turning circle, 3.5 turns lock-to-lock.

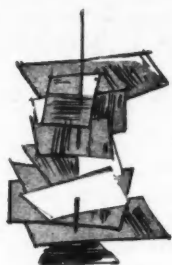
**DIMENSIONS:** Wheelbase 107 in., overall length 180 in., overall height 57.5 in., overall width 66.7 in., ground clearance 7 in., front tread 54.6 in., rear tread 50 in., weight 2700 lbs.

**PERFORMANCE:** Max. speed 110+ mph. Acceleration: from standing start to 45 mph 7.2 secs., to 60 10.7 secs., ¼-mile 17.7 secs. and 78 mph, 30-50 mph 4.1 secs., 45-60 3.6 secs., 50-80 10.1 secs.

**PRICES (F.O.B. port of entry):** \$4530 for automatic transmission model, \$4445 for overdrive model.

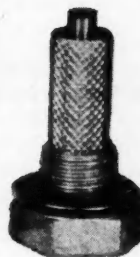


**ALL-AROUND SAFETY BUMPER**, developed by Denver engineer W. W. Lininger, is six inches wide, has steel piers welded to frame, costs approximately \$250.



Remarkable results are being reported from all sections of the country—continued new-car performance for 50,000 miles or more.

# KEEP YOUR ENGINE YOUNG & POWERFUL



**\$4<sup>95</sup>**

FOR YEARS we have known that sulphur and other impurities are found in even the best grades of regular and high-test gasoline. When the fuel is burned, tiny amounts of this sulphur and impurities are left behind to "blow-by" even the best and newest of piston rings into the engine oil. What happens next?

Some water moisture is always present in your crankcase oil. It combines with the sulphur and other trace impurities to form sulphuric acids, in measurable quantities. And then?

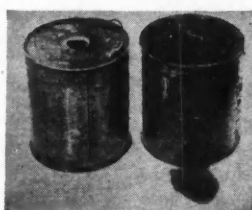
Attacking cylinder walls, pistons and bearings, these acids—if left to accumulate in your engine oil—wear away the close tolerances originally built into finely machined engine parts. No engine ever made—not even the finest—can hope to escape the loss of power and compression that follows. Your own car, if over 6 months old, may already show the symptoms of this acid-caused damage in increased filter sludge and carbon sludge on piston crowns.

If so, here is how you can prevent it!

## MAGNA-POWER STOPS ACID WEAR

With test results to show that an alkaline agent would neutralize the acids and inhibit sludge and carbon formation, the Johns Manufacturing Co. has prepared a special magnesium alloy drain plug called Magna-Power. Tests conducted by the Canadian National Research Council (Canada's Bureau of Standards) and the Southern Analytical Laboratory in Jacksonville, Fla., have found that this magnesium alloy (1) effectively neutralizes corrosive engine acids, (2) greatly inhibits the formation of sludges, gums and resins and (3) destroys catalysts that cause oil break-

down products which foul spark plugs and cause preignition and internal shorting. Further experiments showed that by attaching a powerful Alnico magnet to the plug many iron and steel filings in the drain pan could be removed.



(unretouched)

Filter and oil sample (left) from a car using a Magna-Power plug show less sludge and contaminants—both oil and filter are still clean. Filter and oil sample (right) from car without Magna-Power show normal heavy deposits at same mileage.



(unretouched)

Heavy carbon deposits are actually "baked" on the piston crown (right). Formation of carbon on piston (left) shows remarkable difference when resins are inhibited by Magna-Power. Build-up of carbon causes loss of power and increases oil.

## HERE ARE THE BENEFITS

With reduced acid wear and sludge formation, you get increased power for quicker starting and faster pick-ups. Elimination of many harmful spark plug deposits mean smoother driving, longer spark plug life. Less sludge also means (according to the Canadian Research Council) that oil can be used well over 3,000 miles and filter life is often doubled.

Road tests also show that wear on pistons, rings, valves and other parts can be reduced BY AS MUCH AS 80%. This means a car may be driven well over 100,000 miles without an overhaul. Meanwhile the powerful magnet draws iron and steel filings out of the oil system.

Turn the page for test results—with some of the most significant and amazing endorsements ever given to any automotive product.



(Advertisement)

# WHAT USERS SAY:

## LOWER MAINTENANCE COSTS

"I must write you about my Magna Power on my Packard Taxicab. I installed it when the car had 27,000 miles on it and the car now has 105,000 miles and is still going fine, runs very smooth and is not hard on oil yet. My spark plugs have over 60,000 miles on them and look good for that much more. My car has no work on it in all that time. I change oil every 8,000 miles and sometimes more."

L. W.  
Tomahawk, Wisconsin

"After I put one of these on my former car a 1950 Studebaker Commander, I never touched the motor or even removed the head; and when I turned the car in (it had about 42,000 miles on it) I was getting a top speed of ten miles more per hour than I had been able to obtain before installation of your neutralizer. I would not operate a car without it."

E. G. F.  
Erie, Pennsylvania

## LONGER ENGINE LIFE

"Please rush me a Magna Power Plug for my new Nash Rambler, I had one in my Hudson and also my Plymouth and they are both running and in perfect shape. The Hudson has 90,000 miles or more and the Plymouth has 65,000, neither one has had the head off."

C. A. W.  
Jefferson City, Mo.

"Enclosed is a money order for a Magna-Power plug for my 1956 Ford. I used one of your plugs in my 1955 Ford 6. I put 90,340 miles on the car, and the motor was as good as new when I traded it off."

J. A. W.  
Terre Haute, Indiana

"May 7, 1953 you mailed me an Acid Neutralizer drain plug for my 1940 Dodge motor. This car was completely overhauled at 68,000 miles at which time the Magna-Power was installed; it was driven 70,000 miles after that and was using very little oil and had loads of power when traded in. It is still being driven at this time."

J. H. R.  
Pomona, California

## LESS OIL USAGE

"I have used Magna-Power drain plugs for over a year. I think they are the greatest. I used one in my old car—a 1953 Nash Ambassador, before I installed it the car used one quart of oil in 700 to 800 miles (50¢ H.D. oil). After installing, my wife and I made a trip from Denver, Colorado to Fort Bragg, N. C. Round trip plus lots of hard, fast driving, the car got between 20 to 22 miles to the gallon, and only used 1½ quarts of oil in better than 5,000 miles. I would like to put in an order for one for my new car, a 1955 Nash Ambassador V8. Please send one as soon as possible, because I hate to drive my car without one."

W. S. O.  
Denver, Colorado

"I bought a 1953 Studebaker for which I bought a Magna-

Power plug. I traded it in January 28, 1956 on a new Chevrolet Station Wagon. I drove the 1953 Studebaker 47,000 miles in 26 months and I still got 3,000 miles to a quart of oil. I changed oil at that time. I took a trip to Topeka, Kansas last September and I didn't change oil until I returned to L.A., approximately 5,000 miles. I used one quart on the trip. I am very pleased that I bought the Magna-Power plug. I believe it did wonders. I'd like one now for my Chevrolet V8 Station Wagon 1956."

M. H. B.  
Los Angeles, Calif.

## SPARK PLUGS LAST LONGER

"I am sending for my Magna-Power to put on our new car. We used our Magna-Power on our 1952 Oldsmobile and never had the spark plugs out after we put the Magna-Power plug in, almost 30,000 miles. When we traded it off, we were adding a quart of oil in about 3,000 miles."

C. R. D.  
Boise, Idaho

"Put a Magna-Power plug in a 1950 Ford 6 with 50,000 miles on it. Installed a new set of plugs and points. At 90,000 miles I examined the plugs and I couldn't believe it. They looked like new. Hope you have a Magna-Power plug for my MG-TD."

K. R. C.  
Jacksonville, Fla.

## TRADE-IN VALUE HIGHER

"I have just traded my 1954 Ford for a 1957 model and am not wasting any time in ordering my Magna-Power plug. My car had 70,000 miles registered when I traded and can truthfully say I did not at any time burn any oil due to the Magna-Power oil plug and radiator insert. My car being above average in appearance and mechanically perfect brought me more than the book value. It was sold the same day for above the book value."

A. R.  
New Rochelle, N. Y.

"Please send me a Magna-Power for a 1956 Mercury Montclair. Bought one a couple of years ago for a 1954 Mercury and I really got top trade in because the '54 ran so smooth."

R. A. P.  
Edmond, Oklahoma

"Enclosed you will find my order for an acid neutralizer for my 1956 Ford. I used a Magna-Power neutralizer in my 1954 Ford which I drove 70,000 miles. I used only two sets of spark plugs during this mileage and after the plugs were cleaned during my periodic tune-ups, they tested almost as good as new. My gasoline mileage remained constantly good and the compression after 70,000 miles still checked out to new car specifications. The exceptionally good running condition of my car enabled me to get an unusually good trade-in price towards my 1956 car and the dealer sold my 1954 car within 24 hours after taking it in trade. I have been very enthusiastic in recommending your product to my friends and I certainly want to protect my new car with a Magna-Plug."

J. W. T.  
Attleboro, Mass.

# PERFORMANCE DATA FROM MAGNA-POWER USERS

<b>'55 Volkswagen</b>	
Total engine miles	24,000
Total with Magna-Power	23,000
Spark plug life	24,000

User Comments: "Since installing your plug my spark plug set is still functioning well at 24,000 miles. 8,000 to 10,000 miles was my previous experience."

S. E. A.  
Los Angeles, Calif.

<b>'53 Plymouth</b>	
Total engine miles	22,400
Total with Magna-Power	14,000
Spark plug life	16,000

User Comments: "My mechanic is amazed that there is no grit on the dipstick whenever he checks the oil. I never change my oil except seasonally and even then it's not necessary. The spark plug mileage speaks for itself. The best investment I ever made."

M. F.  
Brooklyn, N. Y.

<b>'52 Buick</b>	
Total engine miles	48,000
Total with Magna-Power	48,000
Spark plug life	35,000

User Comments: "Changed plugs at 35,000 miles but doubt they needed it then. Still running with as much power as ever and not burning any extra oil."

H. J. A.  
Modesto, Calif.

<b>'53 Chevrolet</b>	
Total engine miles	46,924
Total with Magna-Power	21,924
Spark plug life	16,294

User Comments: "I still have the Chevrolet for which I bought the first Magna-Power. Believe it or not I get between 17 and 18 miles per gallon in the city and I still have the pickup that the car had when it was new. I have become one of your stanch boosters."

G. T. C.  
Tampa, Florida

<b>'53 Porsche America</b>	
Total engine miles	24,395
Total with Magna-Power	19,340
Spark plug life	18,000

User Comments: "Had frequent tune-ups before using Magna-Power, especially fouled plugs. Haven't had to take the plugs out in 18,000 miles. Engine runs like a clock."

E. C. D.  
Mount Dora, Florida

<b>'55 Ford Fairlane</b>	
Total engine miles	55,000
Total with Magna-Power	45,000
Spark plug life	5,000

User Comments: "After 55,000 miles I got 4,000-plus miles per quart of oil under any driving conditions. We're sold!"

E. E. L.  
Toms River, N. J.

<b>'54 Ford Country Sedan</b>	
Total engine miles	61,467
Total with Magna-Power	50,000
Spark plug life	40,000

User Comments: "Plugs installed at 20,000 miles and they are still going with two cleanings. As a result of the excellent way my car performed I got a top trade-in value on my new car—about \$300 over average for the model year."

G. S. McE.  
Decatur, Illinois

<b>'53 Ford</b>	
Total engine miles	67,700
Total with Magna-Power	52,000
Spark plug life	8,000

User Comments: "I was using 1 quart of oil to 900 miles. After installing Magna plug, oil mileage went up to 2,000. Motor was operating perfectly at 67,700."

H. A.  
E. Boundbrook, N. J.

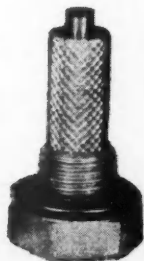
<b>'53 Studebaker</b>	
Total engine miles	55,000
Total with Magna-Power	28,000
Spark plug life	28,000

User Comments: "Installed Magna-Power at 27,000 miles. Traded car at 55,000 miles with same spark plugs. When plug installed, car used 1 quart of oil in 2,000 miles. When traded, it used less."

F. H.  
Cookeville, Tenn.

## WHY MAGNA-POWER IS NOT ORIGINAL EQUIPMENT

A new car, or one that has been rebuilt, should go through a break-in period. During the auto's first 1,000 miles rings are seated and the new engine, through a small amount of necessary wear, "loosens up" for maximum efficiency. The time to install Magna-Power in a new car is at the end of the break-in period when you change oil.



**\$4<sup>95</sup>**

<b>'54 Ford</b>	
Total engine miles	68,490
Total with Magna-Power	63,490
Spark plug life	23,000

User Comments: "Your plug looks very good. Still getting almost 2,000 miles before adding a quart of oil. Points have been good for about 23,000 miles."

J. H. S.  
East Hartford, Conn.

<b>'52 Plymouth</b>	
Total engine miles	43,720
Total with Magna-Power	23,000
Spark plug life	23,000

User Comments: "I installed Magna-Power and new plugs at 19,000—never had plugs cleaned or gapped—sold car at 43,720 miles—had extreme pep and power—changed oil at 2,500 usually about 1 pint low—was averaging on road about 17.4 mpg—it's well worth the investment."

W. F. D.  
Martinsville, Va.

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Middlesex, N. J.**

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Send me a Magna Power for my car on your 30-day FREE TRIAL. If I like Magna-Power, I will promptly send \$4.95 (plus 25c postage and handling). Otherwise I will return Magna-Power and owe you nothing!

SAVE—Send \$4.95 with order and we pay postage—handling—Money back guarantee.

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ADDRESS .....

CITY, ZONE, STATE .....





PLANNED DAYTONA BEACH SPEED PLANT with 2½-mile track and infield sports car circuit may soon become a reality.

## New speedways to bring racing thrills to many more thousands of spectators

**MILLIONS OF DOLLARS** are being put into construction of new speedways in this country, an indication of the extensive growth of the motor sports in public appeal and economic value.

One day this month (June) or early next month, the voters of Daytona Beach, Fla., will go to the polls to decide whether they really do want the proposed \$3 million, 2½-mile speedway. As in any election, it is difficult to predict the outcome, but if the opinions of the Chamber of Commerce members, the merchants and civic leaders are any criterion, the Daytona Beach Motor Speedway is almost a reality.

The speedway will be 2½ miles long, with three turns and three straightaways, to provide better visibility for the grandstand customers. Incorporated into the plans is a sport car course, using part of the regular race track and winding through the infield. Permanent grandstands will be constructed for 30,000 people, with 10,000 bleacher seats, and more stands to be added in the years to come. The grounds will accommodate upwards of 200,000 fans with parking for 20,000 autos on the grounds.

Bill France, NASCAR prexy, will have control of the speedway off and on for a total of six months each year, and will conduct all motor events. The city-county Rac-

ing Authority will have the grounds for the other six months for civic functions, football games, circus attractions and other activities.

If the voters reject the project, rather than pledge the property tax possibility, Daytona Beach Speed Weeks will be a thing of the past, because the existing beach and road course is fast outliving its usefulness. Construction of new homes and motels in that area make staging the races more difficult each year, and the huge crowds, jamming the limited facilities, cause extremely hazardous conditions.

The new race course at Lime Rock, Conn. was inaugurated on April 28 with a furious duel between Walt Hansgen, driving the latest D-Type Jaguar, Bruce Kessler in a Testa Rossa, and veteran John Fitch in another D-Jaguar.

Hansgen was finally able to eke out a win in the last lap, with Kessler second in the fabulous two-liter Ferrari, and Fitch third.

The 10-race program, sponsored by the New York Region SCCA, was attended by some 6600 spectators.

The 1½-mile sports car race course was designed by the Raymond Loewy Corp. and constructed by private capital, to the tune of a quarter of a million dollars. The new

speedway is 100 miles from New York and between Sharon and South Canaan, Conn. Facilities are available for 30,000 cars and 100,000 spectators. An additional mile-and-a-half mountain surface course will be added later at the 385-acre wooded tract.

John Fitch assisted in design of the plant, which will eventually be worth some \$750,000. Early events there are being conducted by the New England Region, SCCA, with national events to come later.

Inclement weather delayed construction of the \$500,000 Danville, Va., Raceway, postponing the opening to Aug. 3-4, with another sports car race scheduled for Oct. 26-27. The 3.2-mile road course, located near the Virginia-North Carolina state line, is rated one of the most challenging in the country. Owner Edward Kenn is considering adding stock car races to the schedule.

Continuing the reports on new speedways throughout the Eastern part of the country, next is a king-sized project at Bridgehampton, L.I., N.Y., due to be completed this month (June).

An SCCA national event is scheduled for Sept. 28.

**INTERNATIONAL CLASS F (1500 cc)** records will probably fall again this August when the MG Car Company sends its perennial record-breakers to Bonneville for a new assault on the present mark of 204.2 mph set by Goldie Gardner in an MG on the Reichs-autobahn at Dessau in 1939.

The completely redesigned car will be driven by British champion Stirling Moss. It can be expected that speeds in the vicinity of 240 mph will be reached.

## Record MG

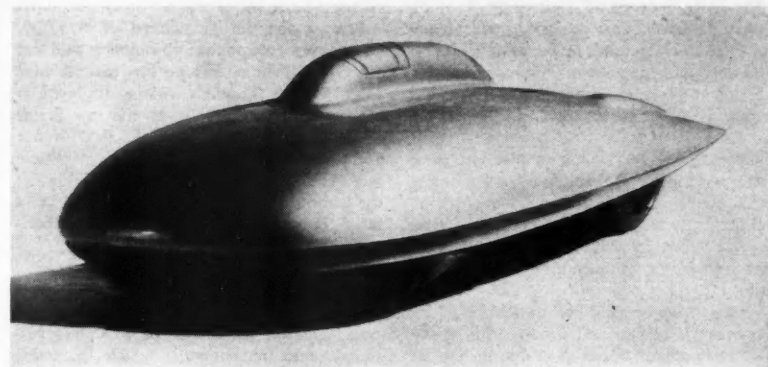
Three years ago, about the same time Daytona Beach started to get serious about its own speedway, the Bridgehampton Road Races Corp. issued \$32,000 in stock and bought \$34,000 worth of land. The corporation, sparked by such figures as H. Austin Clark, Jr., Bernard Corrigan, Bob Grier, Charlie Moran and Alfred Momo, now owns 550 acres of land and has raised some \$250,000 in cash for construction. The course is three miles long, with a 3800-foot straightaway and parking for more than 10,000 cars.

Ideally located to attract the New York, New Jersey, Connecticut and Long Island patrons of the art of sport car racing, this one should be a veritable gold mine for the stockholders.

Thompson, Conn., Speedway sports car road course has been lengthened as George Weaver and associates labored through the winter snow to speed the project.

The Watkins Glen, N.Y., road course is being rebuilt according to suggestions of the SCCA officials, following the hassle over last year's race there.

Not all the speedway construction is in the sports car field. George Hamid moved ahead with a \$250,000 project to pave the



one-mile Trenton, N.J., Fairgrounds race track and he has scheduled a 500-mile USAC stock car race for Labor Day, in direct competition to NASCAR's Darlington, S.C., Southern 500. The challenge is down and the sparks will fly in the clamor for prestige.

Actually, Darlington attendance should not be adversely affected. Last year, there were 75,000 people at the Carolina raceway, and a major portion of grandstand tickets has already been sold.

The revitalizing of the Trenton track will make it possible for the Northeastern fans to stick closer to home on the season's last major holiday, and still get the thrills of a major race. Many others, who have long wanted to go to Darlington, but have been unable or unwilling to make the long grind, will now be benefited.

Both plants should prosper.

The improvements at Trenton bring that location back to the USAC Championship Trail after too long an absence. A 100-mile National Championship speedway car race is set for Sept. 29. Myron Fohr won the last event there, in 1949. Strong criticism of the hazardous conditions caused by the poor dirt surface resulted in an AAA ban on future Championship races.

NASCAR officials, concerned about the

short fields in Grand National Circuit, came up with a short-lived program to pay \$400 in bonus prize money each race to drivers of cars with only one four-barrel carburetor. This was to be an equalizer for the independents who are having a rough time competing with the factory teams.

Hardly had the notice been in the mail when NASCAR officials went one step further and limited all Grand National cars to a single four-barrel carburetor. Down the drain went the thousands of dollars which had been spent by Chevrolet on fuel injection and Ford on superchargers, plus Pontiac's triple-carburetion.

Irony of the situation is that by the time the ruling came out, virtually all of the independents had finally switched over to at least two carburetors. The NASCAR Convertible and Short Track circuits have been running all season with the single carburetor limit, and factory-backed cars continued to win.

Increased interest in sports car competition at the Bonneville National Speed Trials has resulted in broadening the sports car classification for this year's activity. The Bonneville Nationals will be held Aug. 26-Sept. 1, and nine new classes cover all types of sports car engines and body styles.

## French G P

**ON EASTER MONDAY**, to the delight of his countrymen, Jean Behra won the Grand Prix at Pau in southern France. Taking the lead on the seventh lap in a works-sponsored Maserati, Behra was never headed. He finished 110 laps at an average speed of 62.706 mph. The slow time was commensurate with the difficulties of this circuit, laid out in the town and with many sharp corners.

Harry Schell in a Maserati was second and Ivor Bueb in a Connaught was third. The star of the show, however, was that wandering Kansan, Masten Gregory. Getting off to a bad start, Gregory worked his way in an older model Maserati from tenth place to a final fourth.



In the production classes, 500 or more cars must have been produced, with open and closed cars running in the same class.

Three classes in sports car production group are: up to 91 cubic inches, 92 to 170 cubic inches, and 171 to 305 cubic inches. These cars must have stock bodies, unaltered. Engines and body and chassis components must be for same make and year and conventionally mounted. No streamlining.

The American production sports car class is for engines up to 368 cubic inches, with stock American production body and same rules.

Bodies may be modified or fabricated for the Sports Car modified group, with classes covering engines up to 91 cubic inches, 92 to 183 cubic inches, 184 to 305 cubic inches, and 306 to 488 cubic inches. Supercharged engines are limited to 368 cubic inches.

Sports car American modified class is for cars up to 425 cubic inches (supercharged

managing director of the Auto Club of Italy.

Prize money is guaranteed at \$75,000, seven times greater than the money paid for the Grand Prix of Europe last year. A new "Two Worlds Trophy" will be displayed at Monza, to go eventually to the top driver in the combined standings of the 1957 Monza event and the 1958 Indianapolis 500-mile race. The appearance of this trophy indicates the strong possibility that there will be a large European contingent at Indianapolis next year.

Some criticism has been heard of the proposed interim committee of FIA (international auto federation), which is being formed by Charlie Moran, former SCCA president. It would appear that the fears of these critics that auto racing in this country will be dominated by officials overseas are groundless.

The committee's sole interest would be to see that the race is run under safe conditions and conducted in a legitimate and efficient manner. This is a far more practical solution than to have FIA select one association as its official representative, such as was in effect for many years when the AAA Contest Board was the sporting affiliate.

Scheduled for Sept. 8 is the first 500-mile race for sports cars ever staged in the U.S., to be held at fabulous Road America in Elkhart Lake, Wis.

Other activity at the "greatest natural road racing circuit in the world" is an SCCA national championship sports car race, 150-mile feature, June 22-23 and a 250-mile NASCAR Grand National for stock cars July 27-28.

Road America's first stock car race last year was won by Tim Flock in Bill Stroppe's

## MOTOR SPORTS continued



**PETE WOODS** in a D Jag takes the last corner, crosses the finish line, and lands in the winner's circle in Hawaii.

limited to 368 cubic inches), with an American production sports car body modified or streamlined. Engine make is optional.

The cars must qualify as sports cars as per the FIA sporting code and must run with pump gasoline.

The new rules should increase the sports car entry list for this 9th annual jamboree.

Special Firestone racing tires have been built for the upcoming 500 miles of speedway car racing at the Monza, Italy, high-speed race course. To get the information necessary to build the tires, Firestone sent its Indianapolis test car with driver Pat O'Connor and mechanic Ray Nichols to Italy during April and May.

For a while, some of the English motoring publications were suggesting the event might never roll as scheduled, because of financial problems, but that never slowed USAC's Duane Carter who continued to work out the details with Col. Alcardo Covacovich,

"We run more races than all of Europe put together, so why do we need FIA?" is the theme of the comments.

Some international body is needed to co-ordinate the records established in countries throughout the world and to facilitate the race participation of foreign drivers in any country. FIA would not enter the picture at all in connection with most races in this country. They get involved only when manufacturers want to run a performance test for international records, and in connection with races that are international in scope.

FIA, through its committee in this country, will sanction specific events on request, which simply means that the records will be recorded internationally and foreign drivers may compete. American drivers may obtain international licenses through this committee, so they may go to Europe if they desire. It's as simple as that.

As it is proposed now, the FIA committee will issue FIA sanctions to USAC, NASCAR, SCCA and others who might make requests.

Mercury, with the sports car enthusiasts, who came to laugh, going home pleasantly surprised.

Road America is a unique four-mile course of fast straightaways, hills, valleys and both sweeping and sharp turns. Speeds have been recorded up to 140 mph on the straights and laps at 85 mph average. The 520-acre tract is 55 miles north of Milwaukee and there are 16 permanent communication stations for safe conduct of the race and 62 public address speakers for the fans. It is said to rival the greatest Grand Prix courses anywhere in the world.

Hawaii's first International Sports Car Speed Week was climaxed Sunday, April 21, with a spectacular win by popular Pearce Woods of La Habra, Calif. Woods toiled his white D-Type Jaguar around the 3.1-mile Dillingham Air Field course at an average of 82.677 mph for 28 laps to win the Challenge Gold Cup.



He won by 7.4 seconds over Chuck Daigh who drove a "T-Bird powered" Special. Third slot was held comfortably by Texan Carroll Shelby in the 3.0 Maserati which recently garnered number two spot in the 12-hour race at Sebring, Florida.

One lap behind the leaders, in fifth place overall, came Ken Miles, the under-1500 winner, in a new Porsche RS Spyder. Miles was followed by E. Forbes-Robinson, well known MG pilot, who was making his first appearance in a 1500 Lotus-Climax.

During one of the preliminary events at the Hawaiian road races a tragic accident took the life of one of America's true gentlemen sportsmen. Lou Brero Sr. died of burns inflicted when the Chevrolet-Maserati he was driving suffered a fractured fuel tank and erupted in a giant blaze at over 135 mph.

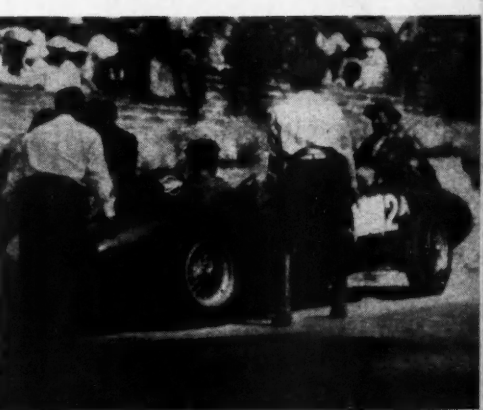
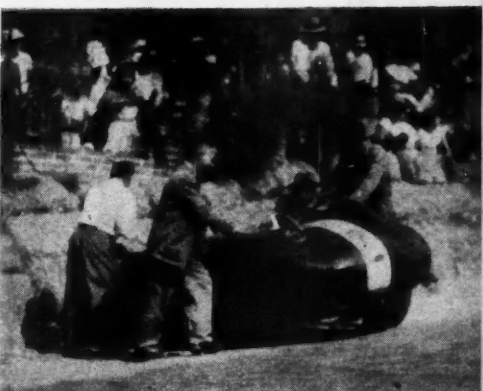
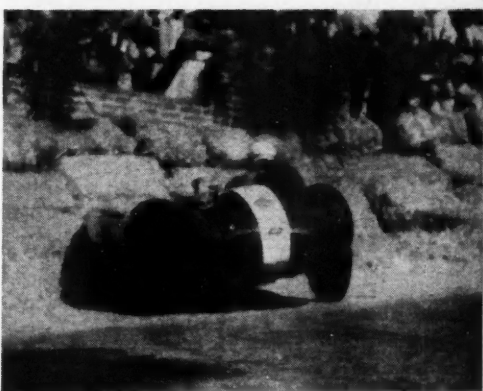
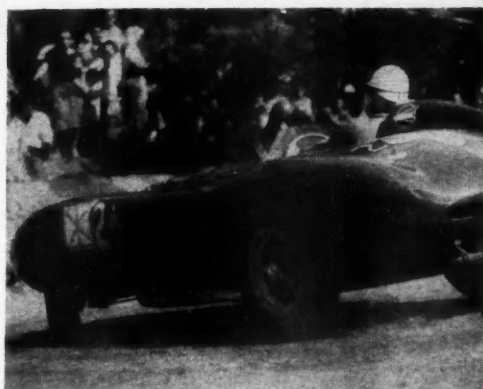
Lou stayed with his car and steered it

safely into the infield away from the spectators, before jumping out at 35 mph. He died a few hours later and his loss will be mourned by sportsmen everywhere.

A recent visitor to the United States was Mr. Gregor Grant, publisher of Britain's *Autosport* magazine. Mr. Grant saw both Sebring and the Palm Springs road races and he said that this country has the finest crop of upcoming young racing drivers in the world.

Italy's Abarth, a concern well known for its excellent speed equipment for Fiat engines, has combined talents with famous coachbuilder Farina to build a new 750cc record car. With this Fiat-based machine, a team of journalists, including our own correspondent, Gordon Wilkins, hope to better

continued on next page



PHOTOS BY VIGNOLLE AND POWELL

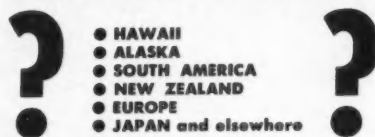
AVANDARO WINNER von Neumann corners in Testa Rossa Ferrari.

MEXICAN ROAD RACE FANS, 25,000 of them, watched John von Neumann of Los Angeles win the fifth running of the Avandaro Road Races near Mexico City on April 7. Taking the lead in the second lap, Neumann wheeled his 2.5-liter Testa Rossa Ferrari to cover 84 miles (35 laps, originally scheduled for 50) in 1 hr. 8:57.7 min. for an average of 73.81 mph. Second place went to Mexican Julio Mariscal in a D-type Jaguar. The third place winner, the entry that really captured the crowd's imagination, was a 1500 OSCA driven with the verve and aplomb of an expert by 15-year-old Ricardo Rodriguez. The amazing youth handled the 2.4-mile twisting, asphalt-paved mountain circuit in a manner that could be expected only from a boy who was Mexican motorcycle champion at the age of 11. Prize fund totaled 100,000 pesos or \$8000, of which von Neumann won \$1240, together with an oversize trophy. The races were staged by the Mexican Club Automovilistico RODA.

HITTING THE HAY put to sleep Jacques Bellesile's chance of winning the International Avandaro Circuit Race. On the 18th lap—slamming down one of the two grades that end at a sharp hairpin—the Los Angeles driver lost his clutch, and his Ferrari Monza came to a stop against the hay bales. His speed had slackened, however, and crash damage to the car was slight.



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## MOTOR SPORTS

continued from preceding page

their own record set last year at Monza in a similar car.

In Riverside, Calif., work is proceeding steadily on the new International Motor Raceway, scheduled for completion by June 30, 1957.

International is laid out like an European course with wide straightaways and long sweeping, high speed bends. Its maximum length is five miles and it can be broken into four smaller circuits, depending upon the type of event.

Also included are  $\frac{3}{8}$ ,  $\frac{1}{4}$ , and 1-mile banked ovals as well as a drag strip. The main straight is exactly one mile long. It is felt that any racing car currently being built will be able to hit absolute top speed here, if on no other course in the States, due to the extremely fast turns at ends of stretch.

International will be the first real race course on the West Coast, and it should be one of the best of the crop now a-building.

The recent \$7.5-million fire at the Jaguar plant precluded the possibility of the new XK-SS model becoming a production category car during the coming season. However, there is the chance that the car could be produced for the 1958 season. It is indeed unfortunate that these cars did not reach the public, for they would have had a field day in production category racing.

The trend in sports car racing seems to be swinging more and more toward production car racing, as opposed to the contests for highly specialized "sports racing" cars. This is evidenced by the interest shown by the public in the exciting duels between the Chevrolet Corvettes and Mercedes-Benz 300-SLs at the SCCA races held last year.

what's  
coming up?

### june

- 15, NASCAR Convertible, Weaverville, N.C.
- 15, NASCAR Short Track, Buffalo, N.Y.
- 15, NASCAR Short Track, Hickory, N.C.
- 15, NASCAR Midget, Islip, L.I., N.Y.
- 15, USAC Midget, Detroit, Mich.
- 15-16, SCCA Race, St. Simons, Ga.
- 15-16, SCCA Climax, Milwaukee, Wis.
- 15-16, SCCA Race, Florida 500
- 15-16, SCCA Rally, Davenport, Iowa
- 15-16, SCCA Climax, Mt. Equinox, Vi.
- 16, Grand Prix of Holland
- 16, MARC Convertible, Atlanta, Ga.
- 16, USAC Sprint Car, Salem, Ind.
- 16, SCCA Road Race, Kahuku, Hawaii
- 16, SCCA Race, Marlboro, Md.
- 16, SCCA Climax, Everett, Pa.
- 16, SCCA Press on Regardless, Pittsburgh, Pa.
- 19, USAC Midget, Galesburg, Mich.
- 20, USAC Midget, Grand Rapids, Mich.
- 21, NASCAR Grand National, Rochester, N.Y.
- 21, USAC Midget, Crystal Lake, Mich.
- 22-23, LeMans, France 24-hour Race
- 22-23, SCCA 150-mile Race, Elkhart Lake, Wis.
- 22-23, USAC Nat'l Championship, Detroit, Mich.
- 22, USAC Midget, Soldier Field, Chicago
- 22, NASCAR Convertible, Winston-Salem, N.C.
- 22, NASCAR Midget, Islip, L.I., N.Y.
- 22, NASCAR Grand National, Old Bridge, N.J.
- 23, NASCAR Grand National, Portland, Ore.
- 23, NASCAR Convertible, Norfolk, Va.
- 23, USAC Midget, Kokomo, Ind.

There are enough high performance production cars on the market today that main events for production sports cars may be seen in this country in the near future.

Word has been received from down under of the 1957 Mobilgas Rally Round Australia. This event, 9000 miles in length, will start from Melbourne on August 21, circle the continent clockwise, and finish back in Melbourne September 8.

This rally has been described as the world's most interesting event. It features trackless deserts, obstacles such as kangaroos, and river crossings complete with crocodiles.

The new Frank Kurtis roadster-midget has shown great potential at the events in which it has competed thus far. It might be just the machine to revolutionize midget auto racing the way the first Kurtis midgets did after World War II.

Crash helmet research is being carried on by a group of enthusiasts under the direction of Dr. Gordon Snively of Sacramento, Calif. The findings of this group, which is financed by the Pete Snell Memorial Fund, should prove most significant to all phases of racing. It has long been a recognized fact that much of the equipment on the market today is inadequate and unsafe.

The Formula II racing season got under way April 27, at the Grand Prix of Naples where the Formula II cars were run concurrently with the Formula I cars.

First place was taken by Peter Collins in a Formula I Ferrari, second by Mike Hawthorne in a Formula I Ferrari and third by Luigi Musso in, of all things, a Formula II Ferrari. Evidently the fantastic claims made for this new bomb from Modena are not without basis.

- 23, USAC 300-mile Stock Car, Trenton, N.J.
- 27-30, Geneva Rally, Switzerland
- 29, Monza, Italy 500-mile U.S. vs. Europe Race
- 29, ARDC Midget, Freeport, L.I., N.Y.
- 29, USAC Midget, Indianapolis, Ind.
- 29, NASCAR Grand Nat'l, Spartanburg, S.C.
- 29, NASCAR Convertible, Soldier Field, Chicago
- 29, NASCAR Short Track, Merced, Calif.
- 29, NASCAR Midget, Belmar, N.J.
- 29-30, SCCA Race, Santa Clara, Calif.
- 29-30, SCCA Race, Thompson, Conn.
- 29-30, SCCA Climax, Lookout Mountain, Colo.
- 30, NASCAR Grand Nat'l, Jacksonville, N.C.
- 30, MARC Stock Car, Salem, Ind.

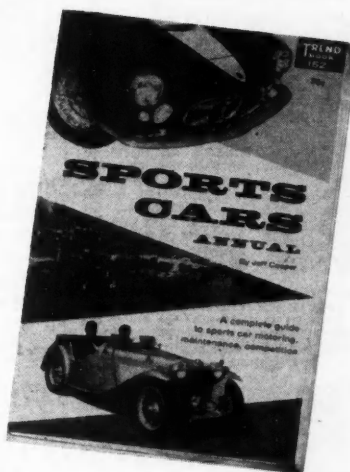
### july

- 3, NASCAR Short Track, Gardena, Calif.
- 4, USAC National Championship, Atlanta, Ga.
- 4, USAC Climax, Pikes Peak, Colo.
- 4, USAC Midget, Lafayette, Ind.
- 4, MARC Stock Car 100-miles, Canfield, Ohio
- 6-7, NASCAR Grand National 300-miles, Raleigh, N.C.
- 4, NASCAR Short Track, Balboa, Calif.
- 5, USAC Midget, Springfield, Ill.
- 6, USAC Midget, Detroit, Mich.
- 6, NASCAR Midget, Islip, L.I., N.Y.
- 6, NASCAR Convertible, Belmar, N.J.
- 6-7, SCCA Race, Galveston, Texas
- 7, Grand Prix of France
- 7, NASCAR Grand National, 250 miles, Bay Meadows, Calif.
- 12, USAC Midget, Cincinnati, Ohio
- 12, NASCAR Convertible, Toronto, Canada
- 13, USAC Midget, Indianapolis, Ind.
- 13, NASCAR Midget, Islip, L.I., N.Y.
- 13, NASCAR Convertible, Buffalo, N.Y.
- 14, SCCA Race, Marlboro, Md.
- 14, USAC Sprint Car, Salem, Ind.

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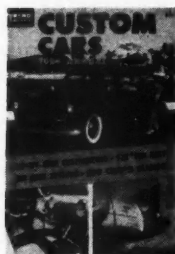


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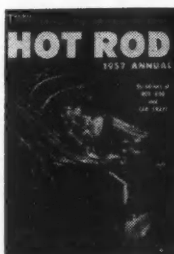


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## Questions from readers

**Q. SLOW STARTING.** I own a 1953 Plymouth which I have trouble starting. The engine will hardly turn over. I have checked the starter motor and the battery is fully charged. I also checked the engine for free turning and have run out of ideas. What's wrong? John Palsky, Memphis, Tenn.

**A.** You haven't mentioned the ground cable. Check this and also the cable to the starter motor. Many good batteries are junked because of a poor ground.

**Q. REAR END CHANGE FOR ECONOMY.** I am thinking of installing a Mercury 3.15 ring gear and pinion set in my '56 Ford Country Squire, as a replacement for the present 3.54. I want to cut down engine rpms and increase mileage. I don't carry heavy loads, and I'm not interested in acceleration. Will the Merc gear fit, and is it a practical idea? John W. Isaak, Sacred Heart, Minn.

**A.** You can move to a lower ratio rear end gear, but the Mercury gear isn't the solution. Your 3.54 (or 3.56) is optional, and you could switch to 3.22 or 3.36. We cannot advise you to go to a lower ratio. The jump from 3.56 to 3.22 is about as far as you should go.

**Q. EASIER STEERING.** I want to reduce the turns from lock to lock on my reworked Ford roadster. Can I do this by lengthening the pitman arm? How much? Jack Maffett, Springfield, Ill.

**A.** Yes—add 2½ inches but have it welded by a professional welder, or better yet, you can buy them ready to install.

**Q. TECHNICAL TERMS.** Will you explain to me in simple terms some of the more familiar (to other people) technical terms like bore, stroke, stroke/bore ratio, compression ratio, displacement, torque, and brake horsepower? John Spector, Sherman Park, Minn.

**A.** It isn't easy to do simply, but we'll try. **BORE.** The internal diameter of a cylinder. **STROKE.** The distance traveled by the piston from the top to the bottom (or bottom to top) of the cylinder.

**STROKE/BORE RATIO.** The length of the stroke divided by the bore. If the ratio is 1 to 1, the engine is said to be square; if less than 1 to 1 (that is, if the bore is greater than the stroke) it is over-square; if more than 1 to 1, it is under-square.

**COMPRESSION RATIO.** The ratio of the total volume of the cylinder and combustion chamber when the piston is at the bottom of the stroke to the same volume when the piston is at the top of the stroke.

**DISPLACEMENT (or Capacity).** The cylinder volume displaced by the pistons as they make a full stroke. To calculate total displacement,

on engines, performance,  
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multiply the square of the bore radius by 3.1416, then multiply by the stroke, and multiply by the number of cylinders. Displacement is generally measured in cubic inches in U.S. cars and in cubic centimeters in European cars.

**TORQUE.** Energy expended when a force moves through a distance. Used to measure the work done, or which can be done, by a source of energy such as an engine. The energy expended in lifting one pound to a height of one foot is equal to 1 foot-pound, therefore this unit is expressed in foot-pounds or the equivalent. In the case of an engine, the motion is rotary rather than linear; however, it has a mathematical equivalent. Term is also used to denote the cause of a turning or twisting motion such as the application of a wrench on a nut. The force at the nut will be the force on the wrench handle multiplied by the distance to the center of the nut. This is measured in pounds-feet.

**BRAKE HORSEPOWER (bhp).** Power is the rate at which work is done. It is the torque divided by time and is expressed in foot-pounds per minute or the equivalent. One horsepower is equal to 33,000 foot-pounds per minute. In the case of engines, the available power, minus that required to drive the engine and lost through internal friction, is defined as brake horsepower. The term "brake" stems from the fact that dynamometers used to measure engine horsepower output have some form of brake to absorb the power which is developed.

**Q. 1933 HUPMOBILE.** Is this a classic? Who designed this beautiful automobile? Is it true that all Hupmobiles have aluminum bodies? Harry Renta, Brooklyn, N.Y.

**A.** The Hupmobile has never been recognized as a true classic. Some models are special interest cars, others ordinary vehicles. The Hupmobile was designed by a group of stylists. Most of the cars were handsome, it is true, but they were all very similar in appearance to the 1931 Marmon. The instrument panels were very similar to the panels of the Auburn. Standard Hupmobiles did not have aluminum bodies. A few custom-built cars did have aluminum bodies.

**Q. NEAR CLASSIC PACKARD.** I can purchase a \$7500 Packard limousine with a LeBaron body. It is a 1942 model Series 180. The mileage is very low and the condition throughout is like new. Does this car approach the classic definition? Also, what is the car worth?

**A.** The car approaches the definition but that's all. A LeBaron Packard of 1942 is very similar in appearance to the standard Packard body. The cars do not curry favor with most classic enthusiasts. That \$7500 price sounds a trifle high. Stay well below \$1000 in any offer you may make.



**Q. MERCEDES-BENZ BLOWERS.** Is it true that the blowers on the Mercedes-Benz could only be used a few times, after which the engines needed an overhaul? Gary Smith, Valley Stream, N.Y.

A. No, it is not true. On older models, the factory advised cutting in the blowers for emergency purposes only, and for not more than 20 seconds at a time. If factory recommendations were followed, the blowers could be used time and time again without damage to the engines. On later models the blowers could be used continuously without damaging anything.

**Q. WANDERING KAISER.** I have a '53 Kaiser which has a tendency to wander. The front end is in proper alignment, and no one seems able to find the trouble. What is wrong? John Nelson, Tacoma, Wash.

A. We suspect poor shocks or broken roll bar. Also check to see that the steering box is securely fastened to the frame.

**Q. BROKEN POINTER.** I own a '53 Fordomatic which has a broken pointer on the shift selector and it is impossible to tell visually which gear I am in. Can this be replaced? Thomas Davis, N.Y.

A. Your Ford dealer can replace the pointer in about 10 minutes.

**Q. CORVETTE MODIFICATIONS.** I own a 1957 Corvette and want to install a belly pan to improve the air flow under the car. I would also like to lighten the wheels by drilling a series of holes in them. Would these modifications be advisable? Also, do you know of a four-speed box I could buy for this car? V. Keeley, Bakersfield, Calif.

A. A belly pan can be installed but it is a lot of work, and we doubt if you could detect any increase in speed. We would advise against drilling out the wheels in the interest of safety. You wouldn't save enough weight to make it worth while, anyway. Chevrolet now has a four-speed transmission.

**Q. WILL IT FIT?** I have a '56 Ford coupe and want to install a Cadillac engine in it. I am told this can't be done as there isn't enough room. I have measured both the car and the engine and believe it will go in. Am I right? Bob Tilly, Hammond, Ind.

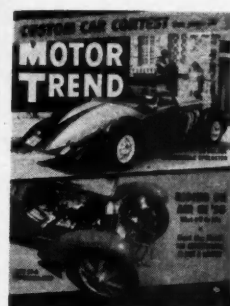
A. You are absolutely right. It will fit, although you will have to cut a section out of the steering shaft cover where it comes through the firewall. That is how close it is!

This new department is open to all types of questions from our readers. We welcome not only technical questions, but queries on new cars, old cars, classics, performance, and what-have-you? It will be impossible to answer any letters personally; we will answer as many questions as possible only in this column.

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WATCH FOR AUGUST **'TEEN** ON NEWSSTANDS **JULY 9<sup>TH</sup>!**

**SPOTLIGHT  
ON DETROIT**

*continued from page 11*

"Economy Champion" as a cheapened car, but instead consider it a lower cost unit. The elimination of chrome trim and the other few changes have cut about 50 pounds of dead weight.

**PERFORMANCE IS GOOD**, as we learned on the obstacle course and on the high speed oval at the South Bend Proving Ground. From a stop to 60 mph took the three-speed four-door sedan just a hair over 19 seconds. Several full-bore passes netted a good, clean 76 mph. It's my feeling that this car, with overdrive, will exceed 80 mph when extended. A safe and economical cruising speed with overdrive would be 60 to 65 mph; in normal 3rd gear 55 mph would be a legitimate speed, while allowing for passing kicks up to 75 whenever needed. The car is a good hill climber, and starts from a dead stop on a 29-per cent grade were made with no trouble at all. The excellent "hillholder" will be a dealer-installed item at small and very worthwhile cost. Tubeless tires are used. If the buyer selects the optional third seat in his new "Scotsman" wagon, he'll do without the spare (that place is taken up with additional foot room), but he'll be right in big league style with the Captive Air tires being popularized this year. The wagon will haul up to nine people. Interior space is exactly that of the Champion and Commander wagons.

**THE PRICES ARE RIGHT** and with all Federal and local taxes, these three models deliver at the factory for \$1776, \$1826, and \$1995 for the two-door, four-door, and station wagon respectively. That's from about \$260 to \$500 less than for comparable, six-cylinder, models of the other four low-priced cars in two- and four-door sedan and station wagon models. In one respect, that of including the heater and defroster as standard items, Studebaker has scored a point of advantage.

**THE OUTLOOK FOR THE "SCOTSMAN"** should be good, if the constant laments as to the disappearance of the basic standard car for the lower income buyer, and for the two-car family which still needs a full-sized car, are any indication. Since there's a proven market for the second car, and because many want the comforts of a full-sized 5/6 passenger job, Studebaker's "Scotsman" certainly deserves to be examined and driven by anyone in the market for well constructed, sufficiently fast, and very economical transportation. This baby should give from 22 to 28 miles, or more, on each gallon of regular juice—and that's real good.

# FUN in a FIAT

continued from page 31

and your car's passengers the round trip rate is an equally modest 10 bucks.

For touring Cuba I would suggest a car with something akin to the TV's fantastic ability to stay put in extreme situations, a similar good-sized trunk which can be locked, sun glasses, and a few extra *viente centavo* pieces plus a good camera, for when you stop a youngster, a village postman or a farmer type with a load of sugar cane all over his pony, it doesn't hurt to toss him a coin for his trouble. The Americano, though amazingly well liked, can be as much rural trouble to the citizens as he is to the bellhop in his hotel.

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## SPECIFICATIONS

**ENGINE:** Ohv 4. Bore 2.68 in. Stroke 2.95 in. Stroke/bore ratio 1.1:1. Compression ratio 7.6:1. Displacement 66.4 cu. in. Advertised bhp 50 @ 5400 rpm. Bhp per cu. in. 0.75. Piston travel @ max. bhp 2655 ft. per min.

**TRANSMISSION:** Standard transmission is four-speed synchromesh with helical gears.

**SUSPENSION:** Front, coil springs and A-arms; Rear, semi-elliptics.

**STEERING:** Turning diameter 34.5 ft. Turns lock to lock 2½. Type: mechanical.

**WEIGHT:** Test car with gas, oil and water, 1890 lbs. Test car weight/bhp ratio 37.8:1.

**DIMENSIONS:** Wheelbase 92 in., overall height 58.3 in., overall width 60.1 in., front tread 48 in., ground clearance, 6.5 in.

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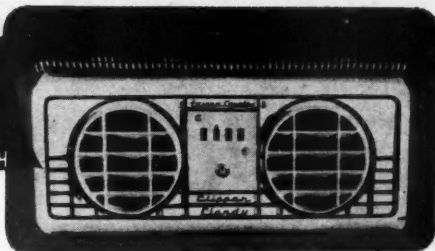
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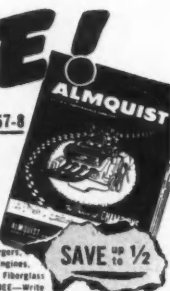
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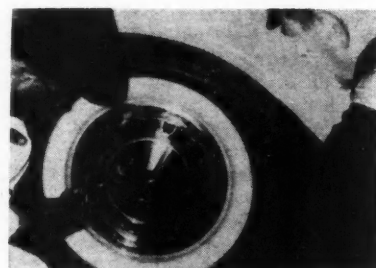
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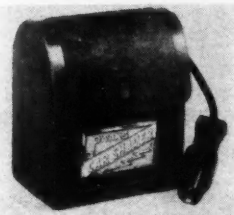
# Motoring Accessories

This department is not composed of paid advertising. Claims are those of the manufacturer, and do not constitute an endorsement by MOTOR TREND. When ordering, include sales tax if required by your state.

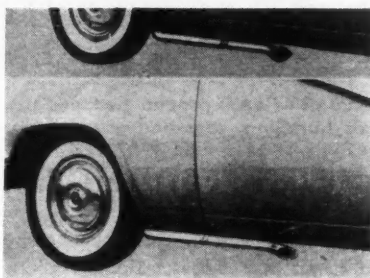
**A FEW PEOPLE** like to steal hub caps. You can discourage them by marking your caps with your name, a design or what-have-you. The electric Vibro-Graver can be used as easily as a pencil. The manufacturers say the process is endorsed by police and insurance companies. Vibro-Graver costs less than \$10 from Burgess Vibrocrafters, Inc., Grayslake, Ill.



**MEN IN A HURRY** needn't look like Father Christmas. The Parks Car Shaver is your personal barber en route. The appliance is light weight and can be stored in glove compartment. It operates from the cigarette lighter outlet and draws less current than one tail light. Six- and 12-volt models \$12.95, from Parks Products, 7421 Woodrow Wilson Dr., Hollywood 46, Calif.



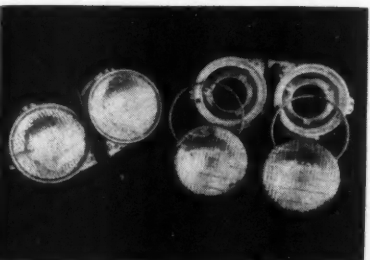
**SIDE TAIL PIPES** are available in three different styles. The pipes are easily installed and come with detailed instructions for those who aren't sure. Lakes Plugs are available, too. The pipes run from \$2 each, unchromed, to \$25 each, chromed, from Douglass Muffler Mfg. Co., 5636 Shull Street, Bell Gardens, Calif.

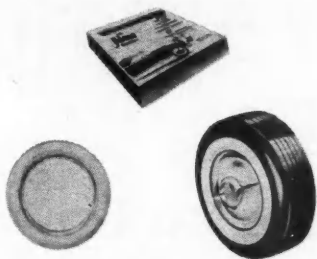


**FENDER MIRRORS** add elegance and driving safety. They have a way, however, of slipping and providing a panoramic view of the side chrome trim of your car. Not so with Boomerang, which always rights itself for good rear vision. They come either flat or convex. \$4.95 ppd. from MG Mitten, Box 121, S. San Gabriel, Calif.



**FOUR LIGHTS** in the night are better than two. One of the latest customizing features is this six- and 12-volt quad headlight unit. They are complete with bulbs, wiring, adjusting and mounting can. Check your State Motor Vehicle Code before installing. \$29.95 from Lee Rockwell, Box 1, Tustin, Calif.





**FLEX-A-WALL** enables you to convert ordinary tires to whitewalls or colorwalls. Fits 15-inch tubeless or tube tires without cementing, yet it holds tightly under all weather conditions. It's durable, protects against curb scuffing, and is available in blue, gray, yellow, green, or red, in addition to white. About \$4.95 per pair. Write to Bearfoot Airway Corp., Dept. MT-1, First and Water Streets, Wadsworth, Ohio.



**WRITE RIGHT IN THE CAR** with a Travel-Desk. The metal clip board fits under the dash and can be easily swung out for writing or holding maps and records. A convenient way to keep routes and mileage on trips. Each Travel-Desk is equipped with a pad and a magnetic pencil. The cost: \$3.75. The source: General Industrial Co., 5742 N. Elston Ave., Chicago.



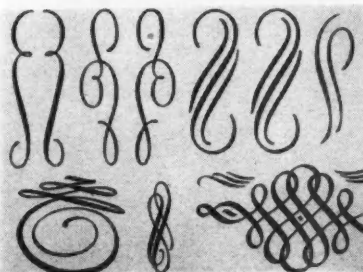
**KLEEN CLEAN** with Fabric Kleen. Liquids or greases dissolve, according to the manufacturer, in this emulsion of dry-cleaning solvents in water. And, along with spot removing, this product is alleged to restore color. What more can one ask? The product is \$1, Tanner Products Corporation, 3933 S. Broadway, L.A. 37, Calif.



**CLEAN AND WAX** in one operation, the manufacturer claims, with "Thixotropic Action." The cleaner-wax comes in a convenient aluminum eight-ounce tube which eliminates spilling, breaking and drying out. This tooth-paste-like product is \$2 per tube at garages or from Authority Laboratories, 5617 Natural Bridge, St. Louis 20, Mo.



**PUTTY TO STEEL** in two hours is the claim for Devcon Plastic Steel. It cements, fills, seals, mends or rebuilds according to your need. Devcon stores indefinitely and is mixed with a special hardening agent when you want to use it. After a two-hour setting period, it can be handled as would be steel. The unit is \$1.98. The Chemical Development Corp. of Danvers, Mass., can supply you with the name of your nearest dealer.



**JAZZ UP YOUR CAR** with this do-it-yourself striping kit. Simply dip in warm water, place in position and remove the backing paper. One kit will decorate your hood, fenders and trunk with 11 designs and the kits are available in gold, white or red for \$1.50 each. Stripes are supposed to be permanent and have the properties of paint. The Kem Co., Room 100, 1310 S.W. First Avenue, Portland 1, Ore.

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BROUGHAM at right may reflect line styling for 1958.

## CADILLAC Eldorado Brougham

HOW IT FEELS

TO RIDE IN

A \$13,500 CAR

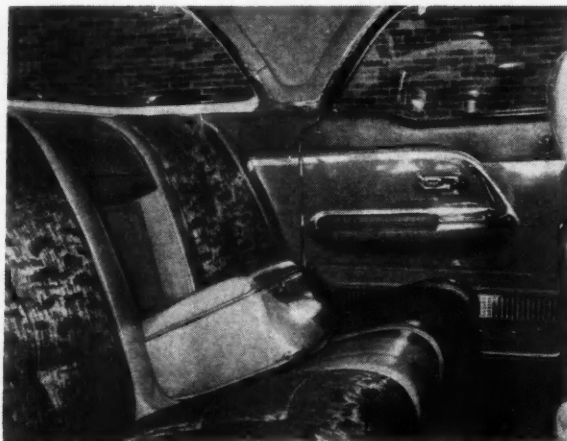
Photo Story by Joe Wherry

**CADILLAC, THE FOUNDER OF DETROIT**, was of an era when supreme elegance in the matter of clothing was the order of the day. The car named after him, in its newest and most expensive version, reflects a similar elegance.

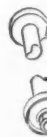
When you enter this semi-custom beauty, you find yourself enveloped in an aura of luxury. The deep, soft seats are upholstered in either glamorous tapestry-type fabrics or top grain cowhide. The interior is distinctive and luxurious beyond any production car made in this country. Interior hardware is beautifully finished and there are plush extras such as the fitted vanity case in the rear seat armrest.

Not long after you have placed the car smoothly and almost silently in motion, you begin to realize that despite the fact you are guiding a 2½-ton vehicle, the handling qualities are very good. The power steering is close to being effortless but still gives you some road feel. We are told, however, that future models will have an extra half turn added to the steering wheel which may cancel all road feel to the dismay of some and the pleasure of others. The ride, as a result of the air-suspension system, is super-soft. It might be described as superb with minor reservations we have described on page 19.

One seeming incongruity in this flagship of the Cadillac fleet is the restricted rear seat legroom. When the front seat is moved far back, rear seat passengers find things a bit cramped. The car was obviously intended for only five passengers. The center armrest folds down nearly flush with the rear seat cushion but it is so hard and the differential-propeller shaft tunnel is so high that as a middle passenger you are relatively uncomfortable. We are of the opinion, however, that these are inconsequential distractions from the million-dollar feeling you acquire from a ride in the Brougham.



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# RIDING ON AIR

continued from page 21

sag spring life—something steel springs cannot give. They also offer quieter operation (fewer road noises), and less servicing for the springs themselves. But, as we shall shortly see, there are other maintenance problems which could loom large—those which will concern the various valves, the compressor, the plumbing required, and the associated electrical circuits, solenoids, and the like.

The Republic Co. in Cleveland, Ohio is a prime manufacturer of height control valves whereas the majority of the rubber manufacturers concern themselves, mainly, with the design and making of the air cells or springs, and the pistons. The auto-

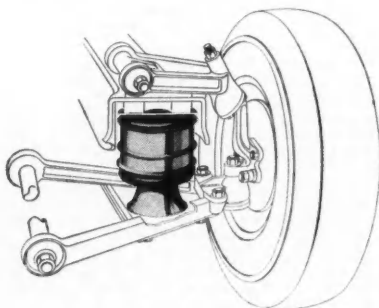
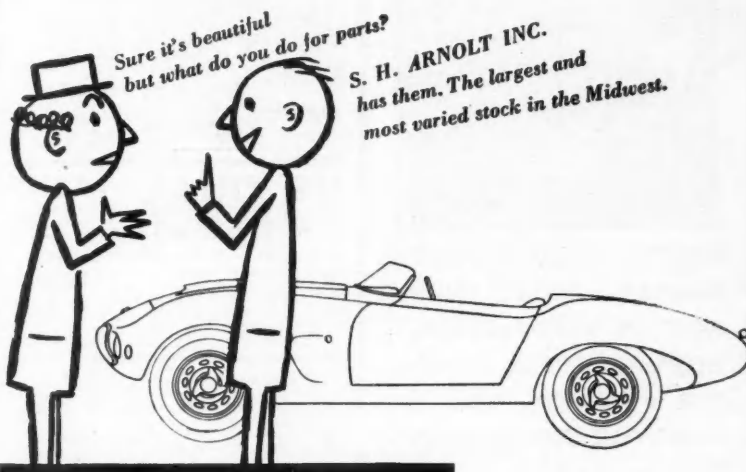


FIG. 6—General's Air Spring

mobile manufacturers are also rapidly increasing their specialized staffs to develop new systems and to work with the air cell and valve builders.

**WHAT'LL RIDING ON AIR** be like in 1958? It will be like riding in a very softly sprung, conventionally-sprung car on a slightly bumpy road with the sharp edges removed from all the breaks and chuckholes in the road. It will be laterally level and level fore and aft regardless of whether you load the trunk with a half ton of coal or not. It will be like sleeping on a soft mattress in a slight earthquake instead of on a GI sack mattress with a top kick trying to awaken you.

**WILL OTHER CARS HAVE IT?** Yes, you can expect it to be optional at extra cost on all Cadillacs as well as on several other makes, and if we say more at this time, we'll have to move out of Detroit. It can stand improvement, and that will come, but it is a great experience—so is the Eldorado Brougham.



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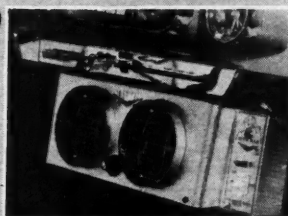
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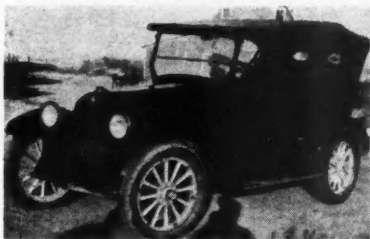
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'53 CITROEN 4-dr. sed. Front drive, torsion bars, good rubber, all-new front end. Never wrecked. A bargain at \$800. James D. Williams, Corydon, Ind. Phone 8-2365.

'32 PIERCE-ARROW 8 club brougham. Engine recently rebuilt. Orig. uph. very clean, body exc., good tires & paint, much new chrome. \$800. M. N. Council, 2424 Nottingham, Houston, Tex.

'29 PIERCE-ARROW 8 cpe., with wire wheels, rumbleseat, golf club compartment. In daily use; good cond. \$250. John Stromberg, 27 York Dr., Piedmont 11, Calif.

'25 BENTLEY 3.5-liter phaeton. Alum. body, r.-hand drive, brass lights, all orig. equip't in good running cond. Drive anywhere. \$1950. all offers answered. Neil McDade, P.O. Box 831, Chattanooga 1, Tenn.

STANLEY STEAMER ENGINE in good cond. 3/4 x 1/4. Best offer. J. A. Biddlecombe, Rt. 6, Box 786, Indianapolis, Ind.

'32 PIERCE-ARROW conv. cpe. with rumbleseat. Orig. thruout; mech. exc. Chrome, interior & top next to showroom cond. Gorgeous; drive anywhere. \$1850 or best offer; pix 25¢. Edwin Goodman, 2827 Winchester Ave., Philadelphia 36, Pa.

'15 OR '16 SAXON 6-cyl. touring. Body very nice; in running cond. Very rare car; can be restored to new cond. Complete; need tires, new top. First \$785 takes. John B. Methot, 881 Cumberland Hill Rd., Woonsocket, R. I. Phone PO 2-6395.

'26 STUDEBAKER Big Six victoria cpe. Like-new cond. inside & out. 21,000 orig. mi.; orig. paint still under fenders. \$500. Richard S. Farrell, Wilshire Rd., Warren Twp., Plainfield, N. J. Phone PL 5-2706.

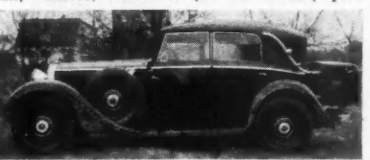
'36 PACKARD-DIETRICH 12 1508 7-pass. parade touring. Only one, built expressly for White House. Exc. body, paint, tires, top. Best offer over \$1500. Ford U. Ross, 311 Pine St., Lakewood, N. J. Phone OLdfield 7-7534.

FERRARI ENGINE—new 190-hp, 4-cyl., 2-liter, complete. \$2800. Frank Belcher, Jr., 1635 Centinela Ave., Inglewood 3, Calif. Phone ORchard 7-1149.

HOOD HOLD-DOWN LATCHES—new, chrome, Model A type. Will fit many other cars. \$1 each, postpaid. No C.O.D.'s, please. Jim Harrigan, 4340 Douglas, Des Moines 10, Iowa.

'34 CADILLAC V-16 opera brougham. Licensed & running; in good cond. Wire wheels. Extra 35¢ cad for parts. Both for \$2500. Kodachrome prints \$1. Chester Holley, 3812 S. Himes Ave., Palma Ceia 9, Tampa, Fla. Phone 61-7202.

'33 MERCEDES-BENZ 290 phaeton. Rare; almost fully restored; stored 12 yrs. Mechanically perf.



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'33 CADILLAC V-12 limousine. Fleetwood body, 6 wire wheels. Exc. orig. cond.; drive anywhere. \$350. Harold Wanasela, 90 Laurel Hill Terrace, Apt. 4-E, New York 33. Phone WAdsworth 8-1824.

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'21 STANLEY STEAMER 7-pass. touring. Restored; extra set of tires, \$4200. J. Pabst, 737 Cross Timbers, Houston 9, Tex.

'28 LINCOLN dual-cowl phaeton, with alum. body by Locke. New genuine leather seats, w.w.s. Perfect top, side curtains & boot. Recent engine overhaul; will drive anywhere. \$2450 firm. Dr. Charles R. Adams, Jr., 1425 Adams Dr. S.W., Atlanta 11, Ga. Phone Plaza 5-6253.

'38 PACKARD V-12 conv. cpe. Good cond.; side-mounts, rumbleseat. Best offer. G. A. Standley, 839 S. St. Andrews Pl., Los Angeles 5.

'36 PACKARD 12 conv. sed., with Dietrich body, dual cowl & side-mounts. Good running cond.; partially restored. Nearly complete extra parts car incl. Roger Gratsinger, Rt. 1, Box 8, Gervais, Ore.

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'31 STUTZ DV-32 4-dr. sed. Good mech. cond. & good body. Edgar W. Chisholm, Monson, Mass.

'41 CADILLAC 60, with rare Fleetwood custom body. Orig., good running cond.; straight stick. \$495. C. E. Marsden, 504 Wyoming Ave., Audubon 6, N. J.

'35 AUBURN M-851 boat-tail speedster. Exc. run-



ning cond.; body A-1; all-new leather. \$4750. Maj. E. V. Spellman, Hamilton AFB, Calif.

'38 CADILLAC V-16 Fleetwood 5-pass. sed. Orig. uph. in exc. cond.; in everyday use. Instruction booklet, tools, etc. Bargain of the month at \$750. Dick Hempel, 121 Ward Parkway, Kansas City 12, Mo. Phone Logan 1-3880.

'28 DODGE Senior Six sed. 6 wire wheels, side-mounts, trunk. Good tires, runs good, near perf. \$150. Also one good 3.50 x 30 tire, \$8. L. Austin, Rt. 3, Bloomington, Ill.

'30 BUICK Master 6 db. cpe. 6 wire wheels, side-mounts, good tires. Runs good; near perf. \$150. Also complete '25 Reo engine & trans., \$35. L. Austin, Rt. 3, Bloomington, Ill.

'34 PACKARD V-12 formal sed. in exc. orig. cond. New top, battery, & fuel pump. Exc. performance; good tires; can be driven anywhere. \$950. D. H. Woolsey, 3920 S. Madison, Tulsa, Okla.

'47 LINCOLN CONTINENTAL conv. One owner, 53,000 mi., exc. orig. cond., all equip't. Safety w.w.s, new black top, new white lacquer. Only \$1750 delivered. C. W. Crittenden, Rt. 2, Box 478-A, Miami 43, Fla.

'39 ROLLS-ROYCE Phantom III Hooper limousine in superb cond. Fast, powerful car. \$5400. W. J. Chester, P.O. Box 752, Oxnard, Calif.

'27 CHRYSLER 4-dr. in fair cond. One owner, 31,197 mi.; new blue paint, heater. Best cash offer. L. Merrick, 320 N. 5th St., Upper Sandusky, Ohio. Phone 191-J.

'42 LINCOLN CONTINENTAL V-12 conv. O.d., r & h, good w.w.s. White, with black top. This rare, orig. model sacrifice-priced at \$895. Pix 25¢. Thomas A. Matthews, S. Main St., Assonet, Mass. Phone Mitchell 4-5922.

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'41 CHRYSLER Experimental Newport 2-cockpit, 2-windshield phaeton. Hand-fashioned alum. body, entire car orig. & in exc. cond. Engine in perf. cond.; 3-speed gearbox with o.d. in every gear. Built by Chrysler Corp. at orig. cost of \$20,000. Asking \$2950. Cotton Goff, Newport Blvd. at 22nd St., Newport Beach, Calif.

ROLLS-ROYCE Phantom III close-coupled sports sed. with attractive alum. Barker sunshine-roof. Exc. cond. & performance. Latest pre-war classic. \$3250 or best offer. Pix data folder. 50¢. W. C. Wilkinson, 311 West St., Lansing, Mich.

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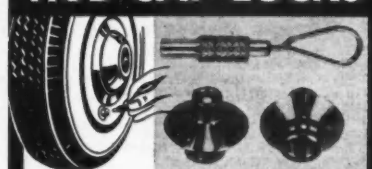
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'41 LINCOLN CONTINENTAL cpe. Completely rebuilt; 5000 mi. on '51 Lincoln V8 engine. New carpets, uph.; 12-coat metallic lacquer. Premium tires, power brakes. B. B. Mills, 200 Earlway Rd., Bristol, Tenn. Phone 5-5722.

'31 CHRYSLER cpe. Restored except for interior; fully rebuilt engine, good paint, tires, body. R & H turn signals; passed New York State insp. \$225. Frank Delaney, 87 East Ave., Hicksville, N.Y.

'34 PACKARD Series 1101 4-dr. sed. 6 wire wheels, trunk & rack. Clean & complete; new black enamel. Ideal for easy restoration. \$195. Capt. W. F. Price, Quarters 519-C, West Point, N.Y.

'40 LINCOLN CONTINENTAL conv., with '54 Cadillac engine. White body, black top; re-uph. in white & black leatherette. Exc. cond. thruout; finest of classics. P. R. Stull, Jr., 1751 Pacific Ave., San Francisco, Calif.

'47 LINCOLN CONTINENTAL hdp., with '53 Merc engine, o.d., duals. Black lacquer. Royal Master w.w.s; black & white interior new thruout, incl. carpeting. Exc. cond. thruout. \$1500. Lt. Col. John H. Cannon, Jr., 1304 York St., Altus, Okla.

'30 MODEL A 2-dr. sed. Like new, less than 12,000 actual mi.; orig. tires, paint, exc. \$600 or best offer. John W. McIntyre, 424 N. College, Rockville, Ind.

'37 LA SALLE sed. Runs good; needs paint & headliner. \$175. Also '29 Model A touring body, frame, engine, trans., rear end & other parts. F. Hougham, 1109 N. McLean St., Bloomington, Ill.

'26 MODEL T touring. Complete; needs front hood, paint & uph. \$325. Also good T radiator (not brass) & Ford Columbia overdrive parts. F. Hougham, 1109 N. McLean St., Bloomington, Ill.

'41 TATRA, with 190-hp twin overhead cam air-cooled rear engine. Restored; comparable to today's



cars. Alleged General Rommel's staff car. Rare classic; make offer. H. E. Van Horn, 2244 N. Main St., Walnut Creek, Calif. Phone Yellowstone 4-9028.

'48 LINCOLN CONTINENTAL cabriolet. This is truly a museum piece; therefore, would appreciate it if only those interested in such a collector's item would reply. Glenn H. White, P.O. Box 466, Canton, Ohio.

'32 CADILLAC V-12 club. sed. Orig. engine, paint, etc. 6 wire wheels, trunk & trunk rack. A beauty. Service records incl. Must sell; \$450 or best offer. D. B. Steffensen, Rt. 3, Norwich, Conn. Phone Turner 7-3133.

BRONZE MARINE rear transmission plate & seal for early Ford; use with open drive line. Marine rear engine mounts for same. Also 3 Stromberg intake manifolds for Olds, \$18. Need good used 4-in. pistons for Olds. Bob Rose, Cawker City, Kan.

'37 STUDEBAKER President 8 Skyway cpe., with o.d. Very fine cond.; long, lean, racy; can be driven anywhere at high speed. \$495 or best offer. Joseph Hruska, Rt. 1, Two Rivers, Wis.

'42 LINCOLN CONTINENTAL hdp. V-12 engine with o.d.; 46,000 mi. R & h. w.w.s; dark green paint & uph. orig. & in exc. shape. B. C. Ostby, 1606 LeRoy Rd., Madison 4, Wis.

'27 CHEVROLET 4-cyl. 4-dr. sed. Mint cond.; drive anywhere. \$600 or best offer. John W. McIntyre, 424 N. College, Rockville, Ind.

'23 STERLING sleeve valve 6 touring. Very rare. Exc. cond., low mileage; no restoration needed. \$2250 or best offer. R. S. Clements, Fishers Rd., Bryn Mawr, Pa.

STRIPPING '28 BUICK for parts. Includes nearly new engine parts & 5 good tires. Send complete requests & bid in 1st letter. Mrs. H. A. Frontz, 2246 E. 20th St., Tucson, Ariz.

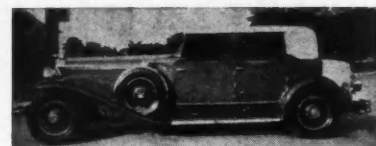
'55 THUNDERBIRD. Skyhaze Green, black conv. top. O.d. trans., power steering, power brakes, r & h. w.w.s. Exc. cond. thruout. \$2250. Neil Wiker, 315 S. Winter St., Adrian, Mich.

'48 LINCOLN CONTINENTAL hdp., with V-12 engine, o.d., r & h. Clean; black; with w.w.s. \$1650; will deliver. Frank B. Piccolo, 4424 Foster Ave., Brooklyn, N.Y. Phone BU 2-2318.

CORD L-29 sed., partially disassembled. Body troubleless; engine needs major overhaul. Short orig. steering column, spare wheels & front bumper. Shame to scrap it. \$150. J. D. Graham, Box 609, Alexandria, Ont., Canada.

'37 STUDEBAKER President 8 4-dr. sed. All orig. paint, uph.; 22,000 mi. Sidemounted spares, r & h, o.d., w.w.s. Drive anywhere. Sacrifice for \$250 needed for antique restoration. Jules Borzon, 4301 Murray St., Flushing, L.I., N.Y. Phone FLushing 8-5320.

'48 JAGUAR classic Mark IV drophead. Exc. cond.; new tires & top, beautiful dark red lacquer. Practical transportation in an unusually handsome car. Best offer. Dr. William Bourke, 6057 Constance St., New Orleans, La.



'32 DUESENBERG Model J Rollston Beverly in exc. cond. Owner entering service. S. S. Stewart, Jr., 1212 Woodlawn Park Dr., Flint, Mich.

NEW PACKARD PARTS—35 to date: gauges, radiator cores, gas tanks, hubcaps, suspension parts, oil & water pumps, exc. State serial, motor, & model numbers. Bruce Clayton, 125 Main St., Lakewood, N. J. Phone Lakewood 6-0634.

'54 ASTON MARTIN DB2-4 3-liter cpe. Exc. cond.; Haze Blue, \$3350. A. Hugh Clarkson, Mill Rd., Doylestown SR 2, Pa. Phone BUCKingham 8872 after 7 P.M.

'21 ENGLISH SUNBEAM rdstr. A large luxury car of its era, with alum. Fleetwood body. Very good cond., except uph. Only one of its kind. \$775. Howard G. DeVore, 222 E. Franklin Turnpike, Ho-ho-kus, N. J. Phone GLibert 4-4839.

NEW REPLACEMENT hubcaps for '28 Model A. \$1.50. J. Messick, 1437 W. Euclid, Stockton 4, Calif.

'52 SINGER Sports 1500 4-pl. conv. 20,000 mi.; engine replaced; good rubber—half new. Exc. cond. & real driving pleasure. \$590. D. H. Rehm, 110 Le Blanc St., Ft. Bragg, N. C.

'34 STUDEBAKER 8 4-dr. sed. Orig. cond.; radio. May be inspected at 1529 Berkeley Way, Berkeley, Calif. Best cash offer over \$150 gets. John H. Church, Ottawa University, Ottawa, Kan.

## SELL OR SWAP

'40 LINCOLN ZEPHYR V-12 clb. cpe. Handsomely restored; new paint, 24-karat gold trim, orig. custom broadcloth uph. Columbia rear end. \$495 or trade for unrestored Lincoln Continental. S. E. Keys, Rt. 3, Golf Club Rd., Port Angeles, Wash. Phone 5675.

'48 LINCOLN CONTINENTAL conv. in wonderful all-around cond. Perf. body, V-12 completely overhauled, new w.w.s, brakes, o.d. \$1595 or consider late model trade. David DiGiuseppe, 742 Westphal Ave., Columbus, Ohio, Phone BE 1-4306.

'28 ROLLS-ROYCE 7-pass. town limousine. Will run anywhere. 6 wheels, extra wheels, tools. \$750; smaller trade accepted. Rolls too large for my space. P. V. Campiglia, 51-17 Junction Blvd., Elmhurst 73, L.I., N.Y.

'41 LINCOLN CONTINENTAL, with new '53 Cad engine, o.d. Body perf., immac., 27,000 mi. Custom interior, new Royal Masters. \$4000 invested; sell for \$1895, or swap for foreign, American. Cal H. Hunter, 144 W. Main, Galesburg, Ill. Phone 4105.

'54 KAISER Manhattan. Beautiful car, strictly stock. Sell for \$850—no less—or trade for good station wagon. John Bartley, 1950 Dyson, Muskegon, Mich.

'47 LINCOLN CONTINENTAL cpe. All orig. except muffler. Engine, finish, uph., all perf. Orig. w.w.s. 21,000 actual mi. Among best in W.S. \$3000; might trade. F. D. Sampier, 5602 Woolworth Ave., Omaha 6, Neb.

'47 LINCOLN CONTINENTAL cpe., with '50 Mercury engine. Good uph., runs perfect; needs body work. \$675 cash or trade for "Krazy" conv. Bill Hammer, 159 16th Ave., San Mateo, Calif. Phone Fineside 5-0967.

'38 CORD 812, restored at Auburn-Cord plant. Black finish, new w.w.s, chrome; factory reupholstered. Engine & trans. o.hauled. \$2750; trade acceptable. John F. Butler, Box 87, Dunkirk, Ind.

'34 REO "Flying Cloud." Exc. orig. cond.; no rust. Make offer, or trade for VW. Will consider delivering. R. C. Akin, Jr., 1637 Hamlin, Wichita Falls, Tex.

## WANTED

CATALOGS & BROCHURES of all classics. MoToR magazines—1925 thru 1929. Paying top prices for mint material. State asking price & full description of all subject matter offered. Sheldon J. Lewis, 61-33 213th St., Bayside, L.I., N.Y.

'38 BUICK conv. cpe., with fender wells & tire cover. Any series, any cond. State price. Robert Bushy, 44 Nawakwa, Rochester, Mich. Phone OLive 7-886.

'40 LA SALLE or Cadillac conv. cpe. Must be clean (no rust) & mech. good. Send picture, model no., price, & complete details. No fancy prices. William Peters, 895 Union St., Brooklyn 15, N.Y. Phone NE 8-9432.

USED RILEY 2.5-liter "Pathfinder" with less than 20,000 mi. Prefer model with twin bucket seat & no-draft windows. W. J. Franks, 1605 Tremont Ave., Ft. Worth 7, Tex.

'24 BUICK 4-cyl. touring car. Also other cars older than '15 models, especially Stutz & Mercer. Send info & pix. W. F. Oliver, Box 5547, Lubbock, Tex.

'37 LA SALLE conv. sed. in good cond. & reasonable. Will also consider '39 or '40 model of same car. Pix requested. Jon K. Parish, 1227 Madison Ave., Burlington, Iowa.

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## AS WE GO TO PRESS

### '58 HUDSON AND NASH

Latest reports indicate '58 American Motors cars will all feature new styling, that the big cars will have dual headlights in horizontal layout, station wagons in all lines will be four-door, that electronic fuel injection is likely as an option, and that Rambler will still have a 6.

### SAAB TO HAVE AUTOMATIC CLUTCH

Sweden's Saab 93 (see Apr MT) will soon have an electrically-controlled servo motor to take the work out of shifting. The "Saxomat" will be optional, eliminates the clutch pedal.

### '58 CADILLAC STYLING

Bodies of next year's Cadillacs will be unchanged basically, with rear ends changed only in trim, but hood will be very low (much like Brougham), grille will be new, dual headlights will be used across board. Air suspension will be optional on all models, and may be standard on Fleetwood 60 Special.

### CORVETTE'S 4-SPEED GEARBOX

As predicted months ago in MT, a 4-speed, close ratio box is to be optional on Corvettes. Since first was too low and second too high for many road courses, this new box should greatly aid in competition. Design is Chevrolet. Price is unannounced.

### FORD COMPETITION IN '58

It's reliably reported that Chevrolet will probably introduce a swanky, larger series in '58 to compete with Ford Fairlane 500s. There's still a slight gap between the top Chevy and the smallest Pontiac, so a super-Chevy seems likely.

### MONROE LOAD-LEVELER

Unfortunately, we had to go to press without info on this, but next issue we'll explain what Monroe Auto Equipment Co. means when they say they have the solution to "the problem of making a car ride level, comfortably and safely, with adequate road clearance when it's heavily loaded . . ." We suspect it has to do with air springs.

### NEW FIRESTONE TIRES, NEW RECORD

Firestone developed new tires for American drivers competing against European drivers at Monza June 20-30, tested them for two weeks in Italy, and enabled Pat O'Connor to average

163.377 mph for 77 laps (226.5 miles) in an Indy-type car. His fastest lap was 170.8. Previous lap record, set by Fangio in '56, was 162.

### NEW ROOTES PRODUCTS

Not usually imported is the Humber Hawk, a 75-hp, 95-mph, 105-in wheel-base 4-door sedan. A new one, to be announced as you read this, may serve to up the import quota. Overseas correspondent Paul West tells us "the body will be entirely new, will be more Americanized . . . will have 90-95 bhp . . . gearbox will retain its 4 forward speeds, but there will be an option of a 3-speed automatic . . ." He also writes, "By the end of June, another new model will come out of the same group--The Hillman Estate (a wagon) . . . It will be in line with the sedan and drophead coupe, will use the 85-cu. in. engine of 51 bhp, will be more Americanized."

### MILLE MIGLIA "MAN-KILLER"

The Mille Miglia has often been called "a mankiller," and once again it unfortunately lived up to its name. At Mantua, Italy the Ferrari in which the Marquis de Portago and Eddie Nelson were driving blew a tire, flipped into the throng lining the road, killed 11 spectators and injured many more. The horrible tragedy immediately caused the Italian press to call for a moratorium on racing "until it can be assured that if a driver gets killed, he takes no one else with him." It seems that such a race as this that starts and finishes in Brescia, but meanwhile traverses over half of Italy for 1000 miles, is most certainly doomed. Piero Taruffi's win in a Ferrari was probably the last.

### VAUXHALL VICTOR FOR CANADA

Still not in this country, but closer, is Britain's G.M.-built Vauxhall Victor (see Apr MT). Since certain Vauxhalls will shortly go on sale in Canada, it's logical that the Victor will be pushed there.

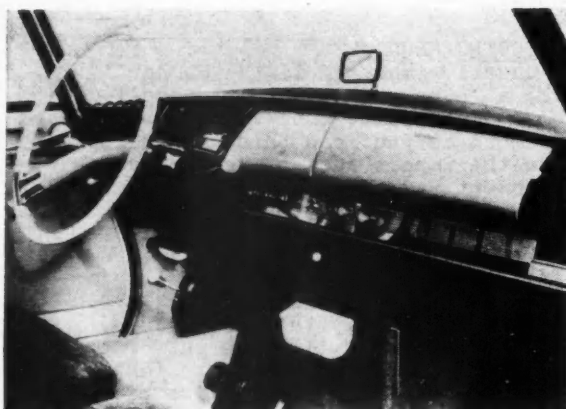
### NEW PACKARD HAWK

A new Hawk is about to emerge from the Studebaker-Packard line—a Packard Hawk. Design is basically similar to Golden Hawk, but with an egg-crate grille that is complete width of car and set back about 6 ins. Hood is low, wide, sculptured similarly to earlier Packards to maintain element of classic styling. Two dummy features are hood scoop, stamped Continental kit with simulated knock-off hub. Rear fenders are like Golden Hawk. Interior features same instrument panel, with leather padding, leather upholstery. Powerplant is probably supercharged Studebaker. Fuel injection could be an option. (cont'd next page)

AS WE GO TO PRESS

## AS WE GO TO PRESS

cont'd



### CITROEN'S ID-19 IN PRODUCTION

Gordon Wilkins writes that Citroën's long-awaited lower-priced version of the DS-19 (Oct. '56 MT) is in production. It maintains its hydraulic-pneumatic, self-leveling suspension, but omits servo steering, servo braking, automatic clutch. Two versions, Normale and Luxe, differ in engine and interior trim, but only the Luxe is being delivered. It uses the 4-cyl. engine inherited from the old-style front-drive car (now discontinued), gives 66 bhp with a 7.5 to 1 compression ratio, weighs 2410 lbs., has two separate front seats, windup windows. To compensate for lack of power steering, wheel is increased slightly in diameter. Seems a fairly heavy pressure is required on the pendulum brake pedal to operate the disc brakes. Top speed is quoted as 84 mph, max. in third as 71. Fuel consumption is said to be 28 mpg. Photo shows ID's panel, looks somewhat cleaner than the DS.

### AND ANOTHER MINICAR!

L'Auto-Journal, France's reliable weekly auto newspaper, reports Vespa will soon introduce a tiny, 2-cyl., 2-seater selling for \$1000 in France. Size is comparable to a Renault Dauphine, suspension is coil at all wheels, top speed is around 50-55.

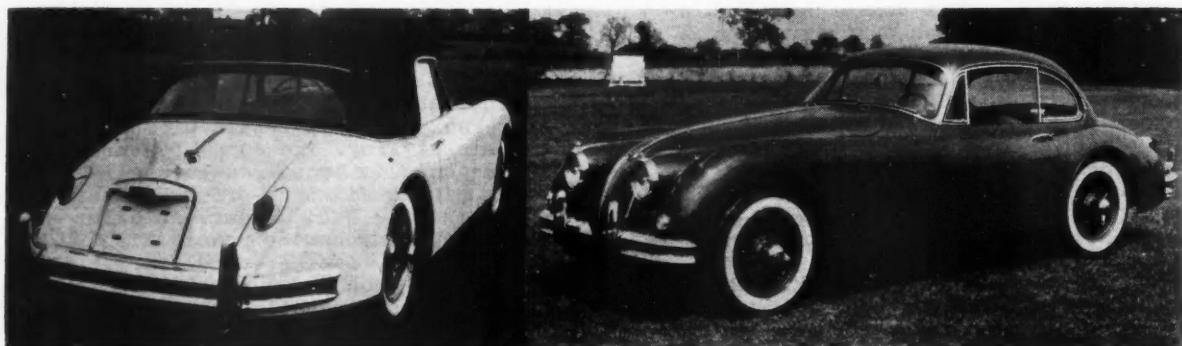
### JAGUAR'S NEW XK-150

As was to be suspected, styling of Jaguar's new XK follows last year's 2.4, this year's 3.4. It uses basically the same chassis as the 140, has Dunlop disc brakes, comes in coupe and convertible only with 4 inches more inside room. Two small "child seats" are in back. Powerplant is that of the Mark VIII sedan, with 210 bhp. London correspondent Wilkins says top of instrument panel is padded, contains usual instruments. Front seats are wide, leather, and with tunnel padded, allows three to be carried abreast. Transmission is 4-speed, with Laycock-de Normanville overdrive and automatic transmission optional.

Wilkins' impression of a brand new coupe off the assembly line: "Excellent all-around vision . . . full width rear window gives immense arc of vision. Legroom is liberal . . . seat adjusts 8 inches fore-and-aft. Short remote-control gear lever and fly-off racing-type handbrake are ideally placed, and steering column is adjustable. New pillar for wrap-around windshield presents no problems entering or leaving, but lack of a grab handle to close door was a surprising omission. Clutch, hydraulically operated, needed usual rather long pedal travel. Brakes were smooth, powerful, light in action. Space in luggage locker still fairly limited, but a good deal more can be carried behind front seats with only two on board."

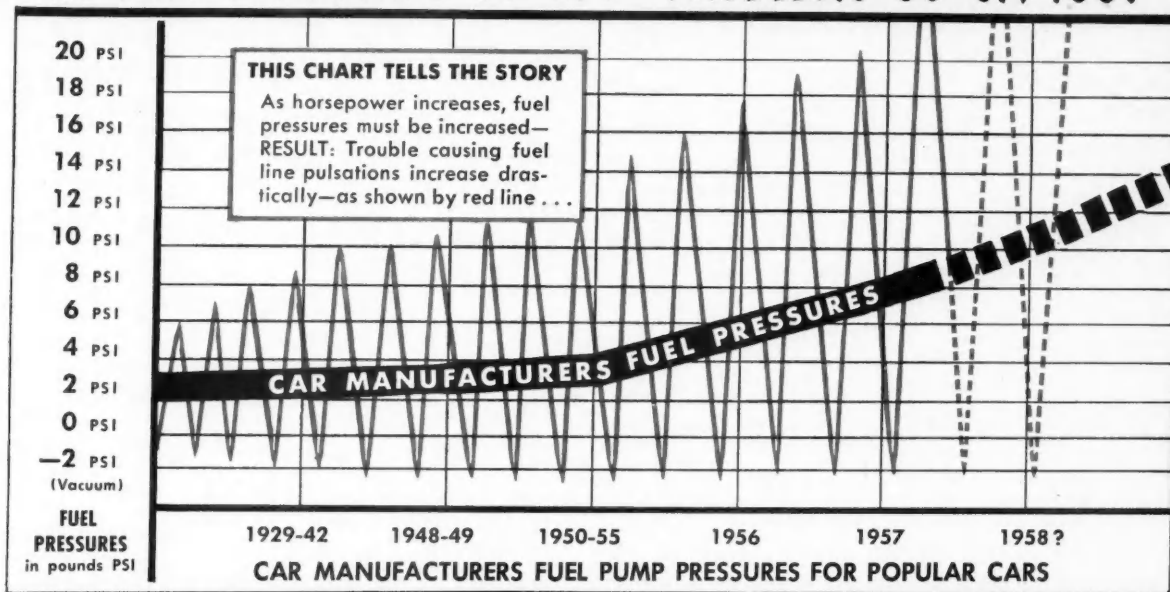
Suspension is by independent torsion bars in front with double wishbones, semi-elliptic in rear. 6.00 x 16 wheels are center-lock, with wire wheels optional. Wheelbase is 102 ins., length 177 ins., height of coupe 55 ins., ground clearance 7½ ins., turning circle 33 ft., dry weight of coupe 2900, convertible 3000 lbs. Road speed at 1000 rpm in top gear with standard and automatic is 22.6 mph, with overdrive is 19.6 locked out, 25.1 mph engaged.

Photos below are of convertible and coupe. Note that grille is like 3.4 sedan (page 50), that rear quarter windows open for ventilation.





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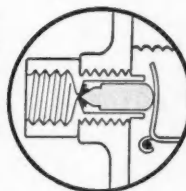
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